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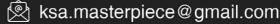
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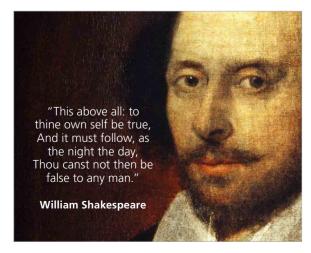
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EDITOR'S NOTE

A Tale of Two Cities (1859) is a historical novel by the English writer Charles Dickens. The opening lines are probably the most famous opening lines in all of English Literature."It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way – in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only."

Although the novel was written in 1859 when the first industrial revolution was at its height, the story actually takes place a century before that during the years before and during the French revolution Set in London and Paris, the "two cities" of the book's title, it was a time of stark contradictions. For the oppressed citizens of 18th-century France, the revolution's proclamation of the rights of man was indeed a "spring of hope." For those of the ancient régime, the outgoing political system, it was a "winter of despair," leading to death and destruction.

Contemplating the current political and economic turmoil engulfing much of the world today, I think it would be true to say that we too are living in both the best and the worst of times. Indeed, you probably couldn't find more apt words to describe what we see happening around us. We see both wisdom and foolishness on full display. We see long-held beliefs being shattered. We see the deceit of our so-called political and corporate leaders who espouse one thing on stage and do something entirely different

Beyond discerning what is good and what is bad about our modern world, more important is how we face life as individuals. If we are fortunate to be experiencing the best of times in our own lives, we need to remain humble and ever-mindful that pride often comes before a fall. If we are experiencing hardship, we should not give up because it is often in the midst of despair that life can take on new meaning. Hardship and difficulty are often an opportunity to discover who we are and enable us learn how to endure and grow. It's an opportunity to find meaning in the things that are actually most important such as family and friends.

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ALJAWHARA ALOTEISHAN EDITOR-IN-CHIEF

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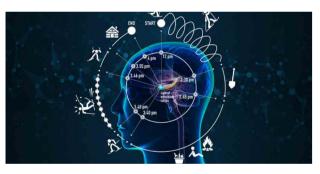


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The British Museum's Albukhary Foundation Gallery of the Islamic World opens to the public this month. Hartwig Fischer, the Director of the Museum, explains how the idea for the new gallery was conceived and how the project was developed.

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Dana Awartany was born and raised in Saudi Arabia. While her art is undoubtedly "contemporary" it is also deeply rooted in traditional Islamic art.

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55. HISTORIC JEDDAH: THE GATE TO MECCA



Jeddah was established in the seventh century as the gateway to Mecca for pilgrims arriving by sea. In June 2014, "Historic Jeddah" was inscribed to the UNESCO World Heritage List

SAUDI ARABIA AND CANADA DISPUTE



Bloomberg reported last month that in the aftermath of a diplomatic row between Saudi Arabia and Canada over tweets by Canadian officials about human rights in the kingdom following which Saudi Arabia expelled the Canadian ambassador, placed a freeze on trade and investment. recalled medical students and lambasted Canada for interfering in its domestic affairs, Canada appeared to be extending an olive branch. While there's been virtually no progress since the dispute broke out, a Canadian government official who spoke to Bloomberg on condition of anonymity, said Canada had suggested that talks between the foreign ministers of the two countries take place during meetings of the United Nations General Assembly. At stake is a Saudi order to freeze any new deals for Canadian firms operating in Saudi Arabia and to end an arrangement under which the kingdom provides thousands of doctors a year and funding that's become a key part of Canada's medical system. Paul Sullivan, a Saudi specialist at Georgetown University in Washington said that while crown prince Mohammad bin Salman was trying to send a message that the kingdom was not to be disrespected by anyone, many Saudi students in Canada were paying a heavy price. "Investors are looking more askance at Saudi Arabia, and none of this helps Saudi relations with the rest of the world." he added.

The Saudis, as part of their response last month, announced a freeze on certain Canadian commercial deals. One Canadian government official told Bloomberg that this won't affect relations between Saudi Aramco and its customers in Canada nor Cirque du Soleil's upcoming show in the kingdom and that the move may be more of a guideline than a hard rule. Any longterm freeze, however, would affect Canadian firms, with one official saying four companies in particular looked exposed: engineering firm SNC-Lavalin, the Canadian unit of defense giant General Dynamics Corp., pharmaceutical maker Apotex Inc., and McCain Foods Ltd. Since 2014, SNC-Lavalin has increased its exposure to the kingdom with two major acquisitions. In a statement last month, the company said it was studying the impact of the Saudi measures, adding that if the freeze is prolonged, "there will be an impact on our future financial performance."For Apotex Inc. Saudi Arabia is one of its key growth markets According to a

spokesman, Jordan Berman, the dispute with Canada was having a "significant and negative" impact on the company's business in the kingdom. McCain Foods Ltd. didn't respond to Bloomberg's request for comment, nor did the Canadian unit of General Dynamics whose C\$15 billion (\$12 billion) arms sale to the Saudis reportedly remains in effect.

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Within Canada, a freeze on Saudi investment isn't expected to have a major impact. The most pressing issue for Canada is a Saudi-financed program that places medical graduates in Canadian hospitals as residents and fellows. Care facilities were initially given less than a month's warning that more than 1,000 Saudi doctors were being ordered to leave Canada. Although the medical community understands they will now be allowed to stay, at least until new assignments are arranged, the fate of next year's program is still up in the air. A day after initial reports of a reprieve, the Saudi cultural bureau in Canada said all students must still leave by the 22nd of September "It's unclear whether Saudi Arabian residents and fellows who are scheduled to start programs in Canada this year will be able to do so," said Andrew Padmos, chief executive of the Royal College of Physicians and Surgeons of Canada, in a written statement. However, he said, the report of an extension is "positive news for Canadian medical schools." Canada's medical system relies on Saudi post-graduate medical students, and the funding they bring with them, for patient care and research. According to Nadia Alam, president of the Ontario Medical Association "the impact is huge and it's on multiple levels." Smaller community hospitals are particularly vulnerable and are often "literally one person away from a health human resources crisis." she said.

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HIGH OIL PRICES. PRIVATIZATION SLOWDOWN?

أرامكو السعودية saudi aramco



In a report last month, Bloomberg suggested that the delay of Saudi Aramco's initial public offering (IPO) may be a sign of a general slowdown of the kingdom's privatization program which is a pillar of crown prince Mohammed bin Salman's Saudi Vision 2030 to transform the economy. Bloomberg noted that when the Saudi government began to consider privatization almost three years ago, Brent crude traded at less than \$40 a barrel. With oil prices now twice as high, there seems to be less urgency, even though the International Monetary Fund in July recommended privatization be accelerated. "It is undeniable that the privatization schedule is running behind what was initially assumed," said Jean-Paul Pigat, head of research at Dubai-based Lighthouse Research. "I'm not sure there yet exists a coherent long-term strategy that actually finds the proper balance between the roles for the public and private sector in the economy, and until this is formulated, delaying the privatization program might actually be in their best interests."

Saudi Arabia wants to boost non-oil revenue by selling stakes in state assets, including Aramco, the stock exchange and soccer clubs. It set up the National Center for Privatization in 2017. According to Mitsubishi UFJ Financial Group Inc.'s Middle East and

North Africa co-head, Elyas Algaseer, privatizations could exceed \$350 billion in about five years. In April, Saudi authorities put forward a target of as much as 40 billion riyals by 2020 (\$11 billion). According to two people familiar with the process, among proposed transactions yet to be completed are plans to sell a stake in King Khaled International Airport. The sale of the \$7.2 billion Ras Al Khair power plant is also yet to be done. BNP Paribas was hired to advise on the deal in September last year.

The Bloomberg report says that while the delays aren't likely to hurt the Saudi economy in the short-term, they raise questions about the government's commitment to reform and whether its targets are realistic. Turki al Hokail, CEO of the National Center for Privatization, has said the center has "completed a large number of significant milestones" over the past 14 months and the program's inclusion in Vision 2030 and its political, institutional and regulatory backing showed the government's commitment to the plans. At least 10 projects are underway, he said. One of the initiatives that is moving forward is the sale of four flour milling companies by Saudi Grains Organization, with a November 30 deadline for bidding qualification applications announced on September 5.

In a report last month, Moody's Investors Service Inc. said the delay of the Saudi Aramco IPO reflects complexities the government faces in opening up the public sector suggests progress in privatization strategy will be gradual. Steffen Hertog, an associate professor at the London School of Economics, said progress has been slowed by the sheer scale of the program, along with gaps in the legal framework and the lack of corporate structures, separate balance sheets or clear revenue models in some targets" Privatization is also made more complex by the fact that the rights of existing Saudi employees will need to be protected and that there are often trade-offs between efficiency, profit and social criteria," Hertog said. "Public employment is a core plank of the Saudi social contract and it would be politically difficult if privatized entities suddenly started shedding workers."Lighthouse's Pigat said most assumptions over the pace and scope of the entire reform process were wildly optimistic to begin with "Change in Saudi Arabia has historically occurred at a glacial pace" he said, "and while there has undoubtedly been an incredible turnaround and progress in many areas in recent years, expectations need to get recalibrated to a more realistic baseline."

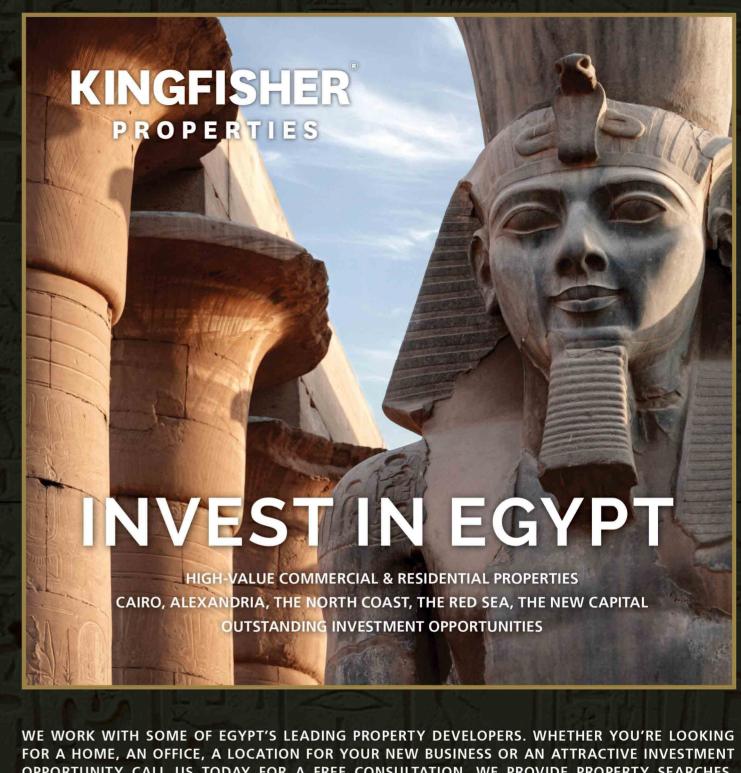
PIF INVESTS \$1 BILLION IN LUCID MOTORS



Reuters reported last month that Saudi Arabia's sovereign wealth fund, the Public Investment Fund (PIF), has agreed to invest more than \$1 billion in Lucid Motors. In an official announcement, PIF said the funding will enable Lucid, which is based in Silicon Valley, to achieve the commercial launch of its Lucid Air electric vehicle in 2020. Lucid joins Tesla Inc., Daimlerowned Mercedes, BMW and Volkswagen's Audi and Porsche divisions in the battle for dominance in the market for premium battery cars. In August, Tesla founder and CEO, Elon Musk, said PIF could help him to take his company private. Following the announcement of the Lucid deal, Tesla shares dropped 2.2 percent before recovering to positive territory. The Lucid investment is part of Saudi Arabia's plan to diversify the kingdom away from reliance on crude oil and build an environmentally

friendly economy. "They're not just a financial partner; they're a strategic partner," Lucid Chief Technology Officer, Peter Rawlinson, told Reuters. "It's all the capital we need for three things: to continue the development of the car, to construct the factory in Arizona, and to initiate the rollout of our global retail strategy and that will commence in the U.S. because that's our first market," he said. The company might plan to sell into China or build SUVs at a later date, Rawlinson said. He said the company conceived itself as being less of a direct competitor to Tesla than with luxury gasoline car makers such as Audi or BMW. A PIF representative said that by investing in the electric vehicle market, "PIF is gaining exposure to long-term growth opportunities, supporting innovation and technological development and driving revenue and

sectoral diversification for the Kingdom of Saudi Arabia." Obtaining cheap capital is a constant challenge for carmakers, which can spend \$1 billion or more engineering a single new model. Based in Newark, California, Lucid Motors was founded in 2007 as Atieva by Bernard Tse, a former Tesla vice president and board member, and Sam Weng, a former executive at Oracle Corp and Redback Networks. Earlier, PIF said it had raised an \$11 billion international syndicated loan for general corporate purposes. The fund has already made substantial commitments to other environmentally friendly projects, including renewables and recycling, and to technology companies or investments, including a \$45 billion agreement to invest in a technology fund led by Japan's SoftBank Group Corp.



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ADVISORY BOARD FORMED FOR THE RED SEA PROJECT



The Red Sea Development Company a wholly-owned entity of the Public Investment Fund (PIF) has set up an international advisory board for the development of its ambitious Red Sea Project (see the story on page 22) The board comprises twelve world leaders in various fields such as business, tourism, environmental sustainability and conservation. Collectively, the advisory board members will suggest best practices across an array of disciplines; connect potential investors and partners to the opportunities offered by the luxury travel industry—one of the fastest growing global economic segments; and serve as ambassadors of the project to raise its profile globally."Utilizing this group of advisors to guide The Red Sea Development Company is crucial to creating a world-class project of this scale," said John Pagano, CEO of the company "The collective expertise of this impressive group will help us to exceed the inspirational goals set for the tourism sector in Vision 2030."

The members of the advisory board first met in New York City last March to provide initial feedback on the project's direction. They met again in Saudi Arabia in July to visit project's unique marine and land ecosystems, and to provide further input on development and sustainability strategies."The advisory board is playing a fundamental role in the development of the project," Pagano said. "The insights and advice that we gather from the board are extremely valuable in assessing and tailoring the effectiveness of our current plan. This will enable us to create something truly unique for our guests and for the people of Saudi Arabia, as we set new international standards for protecting, preserving, restoring and providing access to a unique experience at this site for generations to come."

The members of the advisory board are Sir Richard Branson, founder of

the Virgin Group; Steve Case, chairman and CEO of Revolution, an investment firm; Philippe Cousteau Jr, cofounder and president of EarthEcho International; Carlos Duarte, a professor at the Red Sea Research Center; J Carl Ganter, CEO of the Vector Center, who focuses on natural resources; Paul Holthus, founder, president, and CEO of the World Ocean Council; Aradhana Khowala, CEO and founder of Aptamind Partners, who specializes in travel, tourism and hospitality; Sven-Olof Lindblad, CEO of Lindblad Expeditions; William McDonough, founder of William McDonough and Partners, who is an environmental thought leader; Frits Dirk van Paasschen, a senior advisor at TPG Capital; Vijay Poonoosamy, director of international and public affairs at the QI Group; and Sonu Shivdasani, CEO and joint creative director of Soneva which has built some of the most luxurious and innovative hotels in the world.

STEADY PROGRESS ON RIYADH METRO

Following a meeting last month of Arriyadh Development Authority, its chairman Prince Faisal bin Bandar announced that steady progress was being made on the Riyadh metro project with about 75 percent of the work already completed. Work at 250 sites along the network was in progress.

Two metro operations and maintenance (O&M) contracts were also announced last month. Capital Metro Company (Camco), a joint venture between RATP Dev - a subsidiary of RATP Group - and the Saudi Public Transport Company (Saptco) has been awarded a twelve-year O&M contract for lines 1 and 2.

Line 1 or the "blue line" covers a distance of 39 kilometers and includes 25 stations. Line 2 or the "red line" runs a distance of 25 kilometers and serves 15

stations. Camco will provide a comprehensive range of O&M services including metro operations, security, passenger assistance, facility management, maintenance of stations, depots and the complete transit system including trains, signals, telecommunication and power supply. The contract carries a minimum Saudization target of 45 percent, as well as a minimum level of 55 percent of local content with respect to products and services. Camco will offer jobs to both male and female Saudis in areas such as civil, mechanical and electrical engineering and telecommunications in addition to a wide range of vocational positions: technicians, customer service, ticket sales, safety and security and administration.

A second O&M contract covering lines 3, 4, 5 and 6 was awarded to Alstom, a member of the Flow consortium. The contract was reported to be worth more than \$848 million over a period of 12 years. In addition to Alstom, the Flow consortium comprises Italy's Ansaldo Signaling and Transportation Systems and Ferroviedello StatoItaliane, an Italian stated-owned company. With the rolling stock and systems infrastructure, the total value of the contract will be around \$2.9 billion. Alstom has maintained a presence in Saudi Arabia for nearly 60 years.

The Riyadh Metro is part of the King Abdulaziz Project for Riyadh Public Transport which consists of an integrated metro and bus network to meet the future demands of the Saudi capital. The metro will be the backbone of the city's public transit system with six lines covering a total length of 176 kilometers and including 85 metro stations.



KSA PULSE KSA PULSE



You took up your appointment as ambassador to Saudi Arabia in May of this year. What are your expectations and goals regarding Korea's relations with Saudi Arabia and the GCC in general?

Since taking up my position, I have had many fruitful discussions with high-level officials in Saudi Arabia as well as the heads of various regional organizations such as the Secretary General of the GCC, H.E. Abdullatif Bin Rashid Al Zayani. For the Republic of Korea, the GCC countries - and Saudi Arabia in particular - are very important. Sixty percent of Korea's crude oil imports come from the GCC and Saudi Arabia accounts for the largest share. In the 1970s and 1980s over a hundred thousand Koreans worked on infrastructure projects here in the kingdom and close ties were formed between the two countries during that period. Many of the landmark buildings and infrastructure projects you see around the kingdom were built by Korean companies. These include government buildings, hospitals, universities, highways, airports and residential areas. My wish is to continue the legacy of this long history of cooperation between the two countries, not only in the areas of hydrocarbons and construction, but in other fields such as renewable energy, defense industries, healthcare, education and culture. With Vision 2030, there are important changes going on in the kingdom. Korea is one of Saudi Arabia's most important strategic partners and my goal is to promote and diversify cooperation between the two countries for the mutual benefit of our two peoples.

What are some of the most important conditions that will enable the two countries to continue and improve this relationship?

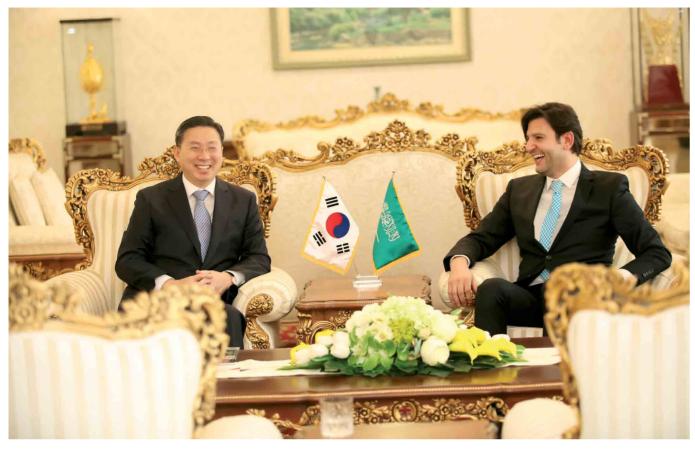
Since the establishment of diplomatic relations between the two countries in 1962, the achievements have been remarkable. This is clearly demonstrated

in the fact that Saudi Arabia is Korea's ninth largest trading partner while Korea is Saudi Arabia's fifth largest trading partner. In 2016, the volume of bilateral trade stood at \$29 billion with South Korea exporting goods as cars, electronics, and steel and importing oil and petrochemical products. Another example of the strong business relationship between the two countries is Aramco Asia Korea Limited (Aramco Korea) which was established in Korea in 2012 to provide infrastructure and professional services to Korean companies.

In the context of the social and economic transformation taking place under Saudi Arabia's Vision 2030, we see great potential to improve bilateral relations. Last year, we formed a joint committee aimed at boosting economic cooperation. In addition, we have a very successful people-to-people exchange program which also serves as an important foundation for bilateral cooperation. This involves an average of about



KSA PULSE KSA PULSE



twenty-thousand people each year. While one might say this number is not very large given the scale of trade and economic cooperation between the two countries, we hope to increase this number following the memorandum of understanding on the facilitation of issuance of visit visas which was signed last April. This is expected to come into effect very soon, enabling people of the two countries to receive a multiple entry visa valid for five years.

I believe the program also enables young Saudis to study at Korean universities. What kind of feedback are you getting from them?

I believe communication between young people in each of the two countries lies at the very heart of future bilateral relations. Young Saudis taking part in the educational exchange are allowed to experience a new culture and environment. When they successfully settle

in, they are able to better understand Korean society, its people and culture. I recently organized a reunion dinner at which they were invited to share their experiences, their ideas and suggestions which I found to be very valuable. I was very impressed by their energy and enthusiasm. Korean pop culture, such as drama, music, and movies, are becoming increasingly popular among young Saudis. I would very much like to create further opportunities for young people in Saudi Arabia to enjoy and share Korean culture.

Vision 2030 has three key aims: a vibrant society, a thriving economy and an ambitious nation. What is South Korea able to contribute to these aims?

As I mentioned, Korea sees the rapidly changing society and economy of Saudi Arabia under the implementation of Vision 2030 as an opportunity to expand

and diversify bilateral cooperation. In the first Saudi-Korea Vision 2030 joint ministerial committee meeting last October the two countries identified forty projects in fields such as renewable and nuclear energy, smart infrastructure, healthcare, e-government, and human resources capacity-building. We are currently discussing the possibly of a second meeting, possibly this year, to focus more on the details of how cooperation in these forty projects can take concrete shape. At the same time, bearing in mind that a more business-friendly environment in Saudi Arabia will be a key factor in attracting more Korean enterprises to the kingdom, the Korean embassy continues to work closely with Saudi authorities to resolve issues and assist Korean enterprises in Saudi Arabia when they need help. Another thing I am very keen to do is to encourage the holding of more business meetings between the two sides. Upcoming forums and exhibitions such as the Korea Nuclear Energy Road Shows and the Healthcare Forum will be opportunities to increase cooperation between the private sectors in the two countries.

What are some of the most important areas of bilateral cooperation?

Having met with many high-level Saudi officials since I came to Riyadh, I have repeatedly emphasized the idea of "made with Saudi Arabia." Thus far, the focus has been on what Korean companies can do "in" Saudi Arabia. But these times call for a change of approach by focusing more on what Korea can do "with" Saudi Arabia by leveraging the strengths of the two countries. This aligns closely with one of the country's aims under Vision 2030 which is to diversify its economy. I believe Korea can be an important partner in this effort by sharing its own development experience and technical know-how.

A good example of this is International Maritime Industries (IMI), a joint venture between two Saudi companies – Saudi Aramco and Bahri, the national shipping company - the rig building company Lamprell plc and Korea's Hyundai Heavy Industries (HHI), the owner of the world's largest shipyard in Ulsan. The joint venture was formed at the end of 2017 to develop Ras al-Khair shipyard and will include the construction of the first rigs and ships ever to be built in the kingdom. Korea and Saudi Arabia will work together in all aspects of the project – design, manufacturing and management. I believe it promises to be a model project through which the two countries can set an excellent precedent for a win-win approach. In fact, this is already starting to become evident. In April 2018, the Korea Trade-Investment Promotion Agency (KOTRA) and Saudi Aramco signed a memorandum of understanding on cooperation in the fields of trade, investment, and human resources. KOTRA and Saudi

Aramco will continue to explore further opportunities for industrial cooperation which will include hosting forums, seminars and road shows. It is my hope that these activities will act as platforms to generate increased interest in the Saudi market amongst Korean companies. This, in turn, will lead to investments and a host of new job and training opportunities for young Saudis. In fact, I would like to emphasize that vocational training is one of the most promising fields for cooperation between the two countries. At the present time, around sixty-five Saudi doctors and dentists and forty-eight nuclear engineers are being trained at Korean institutions. After successfully completing their training, they will be able to put their expertise to real use back home in Saudi Arabia.

I would also like to mention that in October 2017, the two countries signed a memorandum of understanding on cooperation in the field of statistics. Korea has a highly developed statistics system which has become increasingly important in our policy-making process. Under the memorandum, the two countries will share technical know-how in order to further develop the statistics systems of both countries. I believe this will serve as a valuable model on how to diversify cooperation between our two countries.

The Korea-Arab Friendship Caravan has been an annual event since 2008. What in your view is the importance of culture in the context of bilateral relations?

Korea has tenaciously maintained its unique cultural identity for over five thousand years. It has its own alphabet, Hangul, and other tangible and intangible cultural assets are to be found everywhere on the Korean peninsula. The Korean government is exerting its utmost efforts to preserve these cultural assets in the hope they will be inherited from generation to

generation. Although Korean society is changing fast, Koreans will never forget their heritage and history which gives them their sense of identity. Approximately seven million Koreans reside outside the country and they are also very conscious of the need to pass the Korean identity on to the next generation. Korean community centers and language schools are to be found all over the world.

The Korea-Arab Society was established in 2008 and organizes various cultural programs around the Arab world. The 2018 caravan is being held at the King Fahd Cultural Center in Riyadh this month. One of the highlights of the show will be the "fan dance" or "Buchaechum." It encapsulates the essence of traditional Korean art where the dancers form the shapes of flower blossoms. Another presentation, "Bboving".combines the traditional use of marionettes with modern cutting-edge technology. The B-boy team "Expression Crew" is the first Asian team to win the 2002 "Battle of the Year" which is referred to as the "World Cup of B-boying." In addition to the caravan event, a special exhibition on the history and culture of Korea is to be held at the National Museum in Riyadh. Opening on 27th December 2018 it will last for three months. It's being organized in close collaboration with the Saudi Commission for Tourism and National Heritage (SCTH) and is actually the continuation of a series of cultural exchanges between the two countries that began with the "Roads of Arabia" exhibition held last vear in Seoul which attracted more than a hundred thousand Koreans. I believe cultural events such as these and others provide excellent opportunities to enhance bonds of friendship and deepen understanding between the peoples of the two countries and I very much hope that we will be able to organize other events in order to deepen cultural ties between our two countries.

THE SAUDI HEALTHCARE SYSTEM

Healthcare is a major focus of Vision 2030 and the National Transformation Plan (NTP) aims to increase private healthcare expenditure from the current 25 percent to 35 percent of total expenditure by 2020

By Alexander Woodman



he modern healthcare system in Saudi Arabia is a national system in which the Ministry of Health (MoH) provides over 60 percent of the services. The remainder of the coverage is shared among other government organizations (20 percent) and the private sector (20 percent). The rules and regulations governing healthcare address a three-tier system-primary, secondary and tertiary – which comprises medical centers, general hospitals and specialist hospitals. Every Saudi citizen has access to free unlimited medical care and the government provides the major part of the budget. In 2016 this amounted to SAR 95.5 billion (\$25.47 billion) This rose to SAR 133 billion (\$35.47 billion) in 2017 and SAR 147 billion (\$39.2 billion) in 2018.

During the 1950's, a handful of hospitals in Saudi Arabia employed only ten Saudi physicians representing less than 10 percent of the total number of physicians in the entire country. Five decades later, there are an estimated 21,000 Saudi doctors working in 470 hospitals (about 70,844 beds). Of these, 274 are operated by the MoH, 44 are run by other government organizations and 152 are owned and operated by the private sector. There are estimated to be around 2.2 hospital beds for every 1,000 people. In 2016, the number of private medical centers reached 2,754 compared to 2,670 in 2015.

The most significant public health issues in Saudi Arabia are communicable diseases (12.6 percent), non-communicable diseases (78.0 percent) and injuries (9.4 percent). By promoting healthy lifestyles, strengthening the healthcare system and making significant improvements in reproductive and children's healthcare, mortality rates have been significant-

ly reduced. Poliomyelitis, a crippling and potentially deadly infectious disease caused by the poliovirus, has been almost entirely eradicated. Average life expectancy is currently 74 years compared to 66 years three decades ago.

The first initiatives to shift funding of healthcare from the government to the private sector began in 2002 with the formation of the Health Insurance Council which was to be responsible for guiding the introduction of the Mandatory Health Insurance (MHI) program. Completion of the first major milestone of the MHI program in 2005 brought all expatriates working in the private sector under health insurance coverage. Implementation of the Unified Health Insurance policy began in July 2016 targeted companies with more than 100 employees while phase 2 starting October 2016 targeted companies with 50-100 employees. Phase 3 starting January 2017 targeted companies with 25-49 employees with the final phase 4 starting April 2017 targeted companies with less than 25 employees. There are currently 27 insurance companies now operating in Saudi Arabia with more than 11 million beneficiaries including Saudi nationals and expatriates.

Saudi Arabia's population is currently estimated at just under 32 million including just under 12 million expatriates. Of the 20 million Saudi nationals some 10.2 million are male and 9.8 million are female. The population is young with approximately 70 percent below the age of 40 and health services have been planned based on this demographic profile. If we fast-forward to 2035, the population would still be considered young. Population between the ages of 40 and 59 will increase by 1.5 times while population over the age of 60 is forecast to increase by more than 3 times. With 44 percent of the population over the age of 40 and 14 percent over the age of 60 in 2035 requirements for healthcare services will broaden and there will be increased demand for healthcare services



NURTURING FUTURE LEADERS



uawei, a leading global provider of information and communications technology (ICT) infrastructure and smart devices took part in last month's Saudi Chinese Job Fair organized by the Chinese Embassy in Saudi Arabia in collaboration with the Saudi Centre for International Strategic Partnerships (SCISP). Seventy participants of Huawei's "Future Leaders Program" were awarded graduation certificates from Dennis Zhang, CEO of Huawei Saudi Arabia."We are committed to supporting Saudi Arabia as it forges ahead on the road to digital transformation," said Mr. Zhang.

Huawei's Future Leaders Program provides technical education to Saudi nationals, particularly new university graduates, to prepare them to become engaged members of the workforce in line with Saudi Vision

2030. The program provides students with three months of technical training and hands-on practice on ICT projects. Candidates for the program must be Saudi citizens and possess some background in technical subjects such as ICT, mechanical engineering, computer science, or business management. At the end of their training and upon successful completion of the final evaluation, students have the possibility to become Huawei employees. Since the start of the program in 2016, Huawei has graduated four batches of students comprising a total of 125 trainees. Out of the total number of graduates, 97% percent were hired as official employees at Huawei. Li Huashin, China's ambassador to Saudi Arabia, said: "The Saudi-Chinese job fair is another example of the close relationship between China and Saudi Arabia, and I am proud of

Huawei's commitment to implementing its social responsibility programs in aiding the development of Saudi youth."

In addition to the Future Leaders Program, Huawei has implemented a number of initiatives to develop the ICT talent pool in Saudi Arabia. The company brought their flagship global "Seeds for the Future" corporate social responsibility program to the kingdom in 2015 and launched the Middle East ICT skill competition last year. Two teams travelled to China to compete in the international final and take part in knowledge transfer programs from Huawei's global team of experts. After the success of the 2017 edition, the competition will be held again this year.

For more information, visit www. huawei.com



audi Arabian Airlines (SAU-DIA), the Kingdom of Saudi Arabia's national flag carrier, has launched a new dining concept called "Bistro by SAUDIA" which is similar to a restaurant dining experience starting with an appetizer, followed by a main course and dessert. Initially made available to quest (economy) class passengers on flights from Jeddah to London, Paris. and Manchester.more than 200.000 guests have experienced the new dining service so far and the service will soon be extended to other routes and to first- and business-class passengers. Guests will be presented with a selection of appetizers, three main courses from which to choose, as well as snacks and desserts. In addition, for the first time in guest (economy) class, the airline will offer traditional Arabic coffee and dates.

The menus have been developed by chefs from around the world to ensure a truly international gourmet service. Examples of menu items include Greek yogurt with dried fruit; poached pears in almond custard;



egg shakshouka, spinach ricotta frittata, caprese lasagna, chocolate date ganache; guava and mango juice; and pure mint tea. Commenting on the new dining concept, SAUDIA's VP of Corporate Communications, Mr. Fahad Bahdailah said: "Throughout the airline's transformation journey since the July 2015 launch of the SV Transformation Plan 2020, our continued focus has been on providing a guest experience that is memorable, personable, and comfortable. Each new initiative introduced onboard is a reflection

of SAUDIA's commitment to ensuring every guest has a pleasant journey.

SAUDIA currently flies to more than 90 destinations worldwide with a modern fleet of Airbus and Boeing aircraft which is also one of the youngest fleets in the skies. Most of SAUDIA's narrow and wide body aircraft are configured with the latest state-of-the-art Panasonic inflight entertainment systems, WiFi and free access to iMessage, Facebook Messenger, and WhatsApp



Can you begin by telling us something about your academic and career background?

I've been working on large scale, multibillion dollar investments for more than 35 years in the UK, the Caribbean and now here in Saudi Arabia. My background is in engineering but over the course of my career I've covered most components of the real estate value chain, including site acquisition, master planning, project structuring, financing and asset management.

I graduated from the University of Toronto with a degree in mechanical engineering and then worked for a leading consulting engineering firm before moving to Olympia and York, the world's largest private property developer at the time. I moved to London with O&Y to work on the Canary Wharf project, which at the time was being developed as a new business hub for global financial and professional services companies. I worked at Canary Wharf for 18 years, which was hugely exciting. The development has become a global icon and a model for many high-end mixed-use projects.

lead the development of Baha Mar. a \$3.5 billion luxury resort in the Caribbean with multiple hotels, a convention centre and a Jack Nicklaus Signature championship golf course. The Caribbean was a very different way of life from London, but it gave me a deep understanding of what it takes to meet the expectations of modern high-end tourists.

After four and half years in the Bahamas I returned to London as Managing Director of Canary Wharf Group before establishing an international strategic advisory company, Old Fort Capital Investments Ltd, to provide advice on large scale real estate developments in the UK and North America.

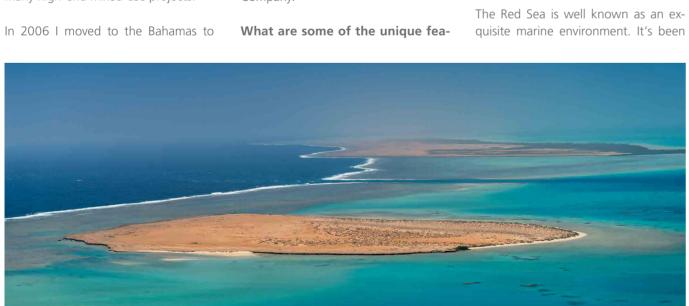
When Vision 2030 was announced in 2016 I started looking at Saudi Arabia as a possible next step. I don't think there is anywhere in the world that is taking on development projects of the scale and ambition that you can find in Saudi Arabia today. This is the place to be if you are real estate professional and I was thrilled to be invited to take the helm at The Red Sea Development Company.

tures of the Red Sea location?

The Red Sea Project is an incredibly exciting development that is going to position Saudi Arabia very strongly on the global tourism map. The Project area covers around 28,000 square kilometers and is being developed as an ultraluxury tourism destination designed to meet the needs of the most discerning Saudi and international visitors.

The luxury tourism market is forecast to grow at an average rate of 6.2 percent over the next ten years. That's a very rapid rate of growth compared to the travel market in general, which is forecast at around 4.8 percent.

What's interesting about that growth is that is fueled to a large degree by a shifting emphasis among luxury travelers toward more experiential tourism offers. 44 percent of the luxury travel market is made up of adventure-seeking travel as affluent holidaymakers look for unique experiences in exotic parts of the world. The Saudi Arabian coast of the Red Sea is a perfect match for the aspirations of the modern luxury traveler.



one of the world's top dive sites for decades. By comparison with other parts of the Red Sea, though, the Saudi coast is comparatively under-explored and is home to some of the world's last remaining thriving coral reefs. The Red Sea Project includes 200 km of unspoiled coastline and an archipelago of more than 50 untouched islands, which include turtle nesting grounds, bird sanctuaries and mangroves. So the range of wildlife is extraordinary.

Further inland is the Hayat Lunayyir lava field, an incredible landscape of dormant volcanos. It's not just a great place for adventure tourism and hiking, it's also a holistic wellness destination with mineral-rich soils and breathtaking views. The site also contains the Hejaz mountains and a wide variety of desert landscapes that are absolutely unique.

The destination sits across part of the ancient Silk Road, which was the trading route between Asia and Europe. If you travel down the old caravan routes you can see petroglyphs and carvings in the rocks around you that date back hundreds or thousands of years. And you can explore the monumental rock-carved tombs and buildings of the UNESCO World Heritage site Mada'in Saleh, a center of the vanished Nabatean culture which also built Petra, in Jordan.

And, of course, all of this is in a country that has only recently begun to open up the leisure tourism market, so it's almost completely unknown. The Saudi culture is one of great antiquity and dignity but little understood by most people outside the country. Saudi hospitality is amazing and the opportunity to better understand and experience that culture will be an important part of the appeal of the Red Sea Project.

I'm not aware of any destination in the



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world that can offer the same diversity of experience – beaches, islands, coral reefs, mountains, volcanos, cultural sites – and the same variety of natural ecosystems in such close proximity to each other. That's what makes this such an exciting project.

What will the destination offer?

The Red Sea Project will be an ultra-

luxury destination that will invite visitors to explore some of the world's last hidden treasures. To do that we will offer a uniquely diverse range of adventure, wellness, nature and cultural experiences and indulgent personalized services. We will deliver these through innovative smart products and services, and customized to the visitor's unique needs and preferences.

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Technology will be an important enabler for the project, because it will allow us to create a completely personalized end-to-end experience that will begin from the moment visitors start to research their holiday to the moment they arrive back home and for years to come. We're looking at biometrics, sensor technologies, smart integrated services, augmented reality, virtual reality, destination management applications and dozens of other products and services to make the visitor experience as seamless as possible.

But no-one goes on vacation to enjoy the technology. They go on vacation to enjoy the experience. So whether our visitors want the seclusion of a private island retreat, the romance of a desert trek along the Silk Road, the thrill of diving pristine reefs, dining in unique settings or being pampered in a volcanic spa, we will have something for everyone.

The Red Sea Project is anchored in our hospitality offering across the ultra-luxury, luxury and upper-upscale segments, so we are planning a diverse range of hospitality options, from mono-island luxury properties to design-driven beach front resorts, holistic wellness retreats and innovative, unique accommodation options. We're also developing a residential offering for people who want a more permanent connection with the destination. either as an investment or as a personal retreat. And we're developing a compelling range of attractions to support the destination.

Ultimately, we want people to be able to enjoy everything this incredible destination has to offer. The landscape is an essential driver of our competitive offer. The diversity and the scale of the landscape gives us the opportunity to develop a combination of compelling experiences personalized to the needs

of adventure seekers, nature lovers and cultural explorers. We are planning a whole range of excursions by land, sea and air to help people explore this unique and diverse landscape. And we are creating opportunities for visitors to experience the incredible warmth and hospitality of the Saudi people.

So preservation of the eco-system will be high on your list of priorities?

Not just high; it is our highest priority. The Red Sea Project is absolutely grounded in sustainability and sustainable tourism in its fullest sense. Often the natural environment has served the needs of tourism. At the Red Sea Project, tourism will serve the needs of the environment and we are devising visitor management policies that will both safeguard the local ecosystems and enhance the visitor experience.

Our objective is to be the world leader in environmental sustainability across all phases of development –planning, construction and operation. We are not seeking to have a minimal impact on the environment – we are seeking to have a net positive impact on biodiversity so that the site will actually benefit from being opened up to tourism and will flourish as a result.

At a practical level that means that we will limit the number of people who can visit the destination in a given year. Many of the world's natural wonders have been spoiled by over-tourism. We do not want to make the same mistakes, so we are putting policies and practices in place from the outset to make sure that everything we do benefits the environment.

We have already undertaken more than thirty comprehensive environmental studies at the destination and have built the results into our master planning processes. For example, we have adapted our master plans to make sure that we don't encroach on turtle nesting grounds and bird colonies. We are being very selective over which of the more than 50 islands we build on and the extent of that development. We are pursuing a policy of 100 percent renewable energy and carbon neutrality. We are using only existing natural channels to access the lagoon by boat so that we don't alter the water currents. And we are installing a network of sensors throughout the destination to monitor environmental markers in all terrains.

We are also very aware that there are people living in the area that rely on the environment for their lifestyle and have a very deep relationship with the land and their natural surroundings. We are exploring ways to involve these local communities in the development so that we can both provide them with new opportunities for personal development and also preserve the knowledge and wisdom that they have. It's really about making sure that the people and the environment can co-exist in a mutually beneficial relationship.

The Red Sea project is being described as the world's largest luxury development. Tell us about that.

Obviously at 28,000 km2 the destination is physically larger than many countries. But I think what is more important than the physical size is the scale of the ambition.

The Red Sea Project is extraordinarily ambitious. Not only are we creating an luxury destination, we are also implementing destination-wide smart infrastructure that will offer visitors a personalized luxury journey through the treasures of the Red Sea. Installing integrated smart systems at a destination of this scale is not something that has,

to my knowledge, been attempted before. Imagine a system where your face is recognized at the airport and you move through passport control automatically. Where your hotel room door recognizes you and unlocks when you approach. Where you have an electronic concierge that can manage all of your requests through a single interface. Where you can see in real time what your environmental footprint looks like. And the list goes on. That alone is an immense undertaking. Of course, the technology is there to enhance the visitor experience and will never replace levels of personal service

and attention that employees will provide. Hospitality is all about people and we want to extend that warm welcome to all our visitors.

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We are also doing all of this within a completely new regulatory framework. The Project will sit in a Special Economic Zone governed by laws and regulations on a par with international norms. The zone will expedite access to the destination for both visitors and businesses. It will support new companies, a vibrant tourism ecosystem and thousands of jobs.

And most importantly, the Special Economic Zone will be governed by regulations that will set new global standards in sustainable development. The destination has been relatively uninhabited for generations, which has protected it, so we are especially conscious of the need not only to preserve the environment but to nurture it for the future.

Local media are reporting that the project infrastructure alone could cost as much as 30 billion riyals. That's about \$8 billion. How is the project being financed?

The Red Sea Development Company is wholly owned by the Public Investment Fund of Saudi Arabia, which is one of the largest sovereign wealth funds in the world and we are fortunate to have the backing, support and confidence of the Saudi Arabia government at the very highest levels.

We have already begun to attract investors who are interested in coming with us on this journey and taking an active role in the economic transformation of Saudi Arabia. PIF is instrumental in helping put in place the right financial and regulatory incentives and we are looking at a wide range of investment and partnership models to suit the needs of best-in-class partners. So, for example, we are exploring po-



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COVER STORY COVER STORY

tential joint venture investors to participate in the construction, development and operation of our residential properties, our hospitality assets and our tourism attractions. And we are looking at public-private-partnerships to support utility infrastructure, power generation, transportation and other hard infrastructure.

Because the Red Sea Project covers an entire destination of 28,000 km2, not just a resort, we need to develop a dizzying array of projects outside of our core hospitality and leisure offering. We need to build schools and health centers. We need to construct air and marine transport terminals. We need emergency services and mobility systems.

I think investors will be attracted not only by the scale and scope of the development but also by the strategic location of the destination. We sit at the crossroads of Europe, Asia, the Middle East and Africa in close-proximity to the world's largest outbound travel markets for luxury tourism, which gives us significant competitive advantage. And we are well positioned against the most significant emerging trends in the luxury travel market, which center around immersive experiences in a pristine environment that emphasize 'being' over 'owning'. It's a very compelling combination and one that has already attracted a lot of investor interest.

How is the project progressing?

The project is progressing very well indeed. We're deep in the master planning process and working closely with our advisors and our environmental specialists to finalise the development plan. The needs of the environment are informing the master plan, so there is a huge number of variables we have to take into consideration, which adds to the complexity of the process. However we have an extremely experienced



team and a world-class line-up of advisors so the work is moving forward in line with our expectations. We are on track to break ground by early 2019 and to open the first the first phase of the development in 2022. That phase will include not only hospitality, residential and leisure assets but also the hard and soft infrastructure needed to support them.

What kind of market response do you anticipate?

The luxury travel market has grown by around 18 per cent since 2014 – nearly twice as much as international travel in general. By some forecasts the luxury travel market could grow to as much as USD1.1 trillion by 2022. The majority of luxury travelers are still coming from Western Europe and North America, but Asia is an emerging force as well. Obviously we believe that the Red Sea Project has the potential to attract a significant number of luxury travelers. 80 percent of the world's population lives within an eight-hour flight of the destination, so we are physically very accessible. And the product offering is truly unique, not only in terms of

the sheer diversity of experience that people can enjoy but also in terms of the extraordinary and little-explored culture. For the discerning luxury traveler, the Red Sea Project is one of the world's last hidden treasures and we anticipate considerable interest.

What are some of the most important social and economic impacts of the project?

The Red Sea Project will bring about a significant transformation in the Kingdom by promoting international tourism and placing Saudi Arabia on the global tourism map for the first time. By 2027, international tourist arrivals worldwide are forecast to total 2.4 billion, generating an expenditure of USD2.2 trillion. The Red Sea Project will enable a proportion of this to be routed into the Kingdom, diversifying the economy and creating significant employment and investment opportunities.

The Project will contribute to the diversification of the economy by creating new growth prospects in various industries and sectors, such as tourism, infrastructure, hospitality, services and

retail, as well as many others to create a dynamic tourism ecosystem. We are opening up whole new areas of activity within the tourism industry and we will be investing significant resources in training and development for Saudis with an interest in pursuing their careers in this fast-growing sector.

The Project will also increase the Kingdom's competitiveness worldwide as an attractive destination to do business and invest. The Special Economic Zone provides an open, transparent regulatory system designed to encourage investment and partnerships with bestin-class companies from all around the world. The investment will benefit not only the destination but the national economy as a whole.

As CEO, a lot rests on your shoul-

ders. Clearly, the business environment in Saudi Arabia is different from London, England. Is this an issue for you? How have you adapted to living and working in such a different environment? And what do you view as some of the particular challenges you face in developing this project?

Business environments are different around the world. Saudi Arabia was somewhere I specifically wanted to work because I believe that this really is one of the most exciting and dynamic markets in the world right now, especially if you're a real estate development professional. There is enormous energy here and the leadership of the country has committed to a very clear vision for the future. Since I arrived I have been overwhelmed

by the warmth and hospitality of the Saudi people and by their enthusiasm for this project.

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Certainly there are some very high expectations for the Red Sea Project. We are building up the team very guickly and hiring the best, most experienced talent from Saudi Arabia and internationally to allow us to meet those expectations. What is most exciting about the project is the fact that our ambition is to set new standards in everything we do. whether from an environmental, experiential, technical or a regulatory perspective. Creating a destination is a very different prospect from building a resort. It's the complexity of the project and, to be honest, the unknowns that make this such a fascinating role.



ECONOMIC SNAPSHOT: MENA

BY RICARD TORNÉ

HEAD OF ECONOMIC RESEARCH, FOCUSECONOMICS.

REAL SECTOR | GROWTH PICKS UP IN Q2 BUT RISKS TO THE OUTLOOK LOOM ON THE HORIZON

Economic growth gained traction in the second quarter as higher oil prices and rising crude oil production boosted economic activity among oil-exporting countries. Conversely, higher crude prices appear to have eroded consumer purchasing power among oil-importing economies, while the ongoing monetary tightening by the U.S. Federal Reserve unnerved financial markets in the quarter. According to a preliminary estimate by FocusEconomics, the MENA economy rose an aggregated 2.6% year-on-year in Q2, which marked an improvement over Q1's 2.5% expansion but was below the 2.8% expansion projected last month. Although Q2 GDP data has not yet been released for any of the Gulf Co-

operation Council (GCC) countries, economic activity significantly benefited from the near 50% year-on-year increase in oil prices observed in Q2. OPEC countries also started to pump more oil in May in order to compensate for declining production in other key producing countries such as Libya, Nigeria and Venezuela.

OUTLOOK | GEOPOLITICAL RISKS PROMPT MENA'S 2018 ECONOMIC OUTLOOK TO DETERIORATE

Although the rise in oil prices promises to support growth in the region, geopolitical risks and heightened volatility in the global financial markets are weighing on the region's economic outlook. The monetary hiking cycle in the United States is slowly tightening financial con-

ditions in the region, which could cause economic conditions to deteriorate further down the road. In addition, political unrest and domestic economic imbalances remain high in countries like Bahrain, Iraq, Lebanon and Jordan, which could eventually turn into sizeable economic

downturns. Against this backdrop, FocusEconomics Consensus Forecasts panelists expect the region to expand 2.6% in 2018, which is down 0.1 percentage points from last month's estimate. Our panel projects growth of 2.7% in 2019.

SAUDI ARABIA | KING SALMAN STOPS THE LONG-AWAITED PRIVATIZATION OF ARAMCO

Economic growth likely strengthened in recent months due to a combination of higher oil prices and increased oil production. The Saudi oil industry has ramped up production to pump more than 10 million barrels per day since May, filling the gap left by other key producers in recent months. Against this backdrop, international reserves hovered above \$500 billion in the

April–July period, while credit growth accelerated to an over one-year high in July. Despite the improvement in the oil market, business conditions in the non-oil sector remained relatively weak compared to the previous year. Economic growth will likely rebound this year mainly due to a combination of higher oil prices and stronger production. Subdued growth in the

non-oil sector, mounting geopolitical risks and uncertainty about the country's reform agenda cloud Saudi Arabia's economic outlook. FocusEconomics Consensus Forecast panelists expect growth of 1.8% in 2018, which is up 0.1 percentage points from last month's projection. In 2019, growth is seen accelerating to 2.4%.

UAE | ECONOMY APPEARS TO HAVE STRENGTHENED IN Q2

The non-oil economy appears to have accelerated somewhat in the second quarter, as suggested by the average PMI reading over April-to-June. Meanwhile, although oil production remained constrained, it started to pick up at the end of the period as the OPEC production targets were relaxed. Furthermore, and despite a softer PMI reading in July, economic momentum looks poised to gain steam in O3. This is due both to higher oil output and to a flurry of reforms implemented in recent months to stimulate investment and business activity. These measures include a joint investment plan with Saudi Arabia, a large

fiscal stimulus program in Abu Dhabi, as well as visa and business licensing reform which aims to reduce the cost of doing business and attract foreign companies and skilled workers. Going forward, the country should also benefit from strong external demand, notably from GCC countries and Europe as reflected by foreign order growth in the July PMI; as well from a likely improvement in employment growth, which was anemic in the first half of the year. Economic activity should accelerate this year thanks to higher investment and public spending. Notably, infrastructure investment related to the country's preparation to

host the 2020 World Expo, recent business-friendly reforms, and a new investment law to be unveiled in Q4—which will authorize complete foreign ownership of firms in select sectors—are poised to boost investor confidence and support higher FDI inflows. In addition, the country should benefit from a robust tourism sector, particularly in Dubai, and higher oil production starting in H2 2018. FocusEconomics panelists expect GDP to increase 2.5% in 2018, which is down 0.1 percentage points from last month's forecast, and 3.1% in 2019.

EGYPT | HEALTHY GROWTH IN FY 2018 CARRIES OVER INTO FY 2019

The 2019 fiscal year got off to a good start in July as operating conditions in the non-oil private sector improved for the first time in three months. The improvement was due to increased demand, both domestic — benefiting from healthy inbound tourism activity — and foreign. However, shortages of raw materials and higher costs weighed on operating conditions in July. This comes after annual economic growth in April–June, the last three months of FY 2018, remained

at the multi-year high recorded in January–March, supported by increased investment and exports. Furthermore, in the same period, unemployment fell to the lowest level in seven and-a-half years. Meanwhile, on 28 August, Moody's raised Egypt's credit rating outlook from stable to positive, citing progress made by the government in its implementation of IMF-backed structural reforms. Economic growth is expected to moderate slightly in FY 2019 but remain robust nevertheless.

Increased government investment spending and an improved regulatory environment, coupled with an external sector that continues to reap the benefits of a weaker pound, should underpin growing output. However, large fiscal imbalances and the higher price of oil will weigh on prospects. FocusEconomics panelists expect GDP to expand 5.1% in FY 2019, which is unchanged from last month's forecast, and 4.9% in FY 2020.

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FocusEconomics is a leading provider of economic analysis and forecasts for 127 countries in Asia, Europe, the Middle East, Africa and the Americas, as well as 33 key commodities. The company, founded in 1999, is supported by an extensive global network of analysts from the world's most renowned international investment banks and top national financial institutions. Each month, the company surveys several hundred carefully selected economic experts from the leading banks, think tanks and consultancies to obtain their projection s for the main economic indicators and commodities prices. The forecasts are corroborated and analyzed by our in-house team of economists and complemented with brief commentaries on the latest economic trends.

MARKETS TECHNOLOGY

THE FUTURE OF CRYPTOCURRENCY

By Sara Almuaithir Lecturer in Accounting, King Saud University

ryptocurrency is arguably the most talked about innovation in global finance in recent years. For many, it represents an opaque, secretive, high risk activity that, if it is to exist at all, should be on the margins of economic activity and not at its centre. For others, it is a cutting edge, potentially transformative, way in which money takes form and syncs with our digital age. But what is cryptocurrency and what is it built upon? And how much confidence can we have in the concept, its mechanics and its culture?

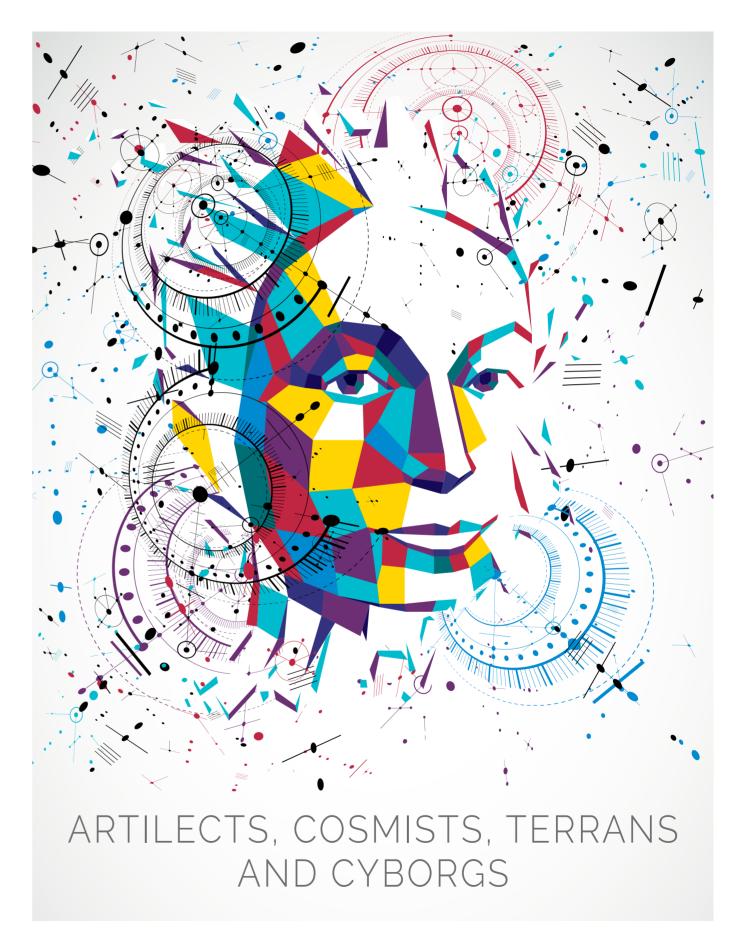
Cryptocurrency - of which Bitcoin is the best known and first of the type-uses cryptography to secure digital money used in transactions. The oversight of, and relevant protocols applying to cryptocurrency come from private rather than government parties. The "currency" is maintained on a record keeping system referred to as "blockchain" which, in essence, is a chain of digital records each of which is time-recorded, quantified, and validates relevant transaction history. Although the mechanics of cryptocurrency would normally put it beyond the reach of anyone other than the digitally competent and financially astute, the recent and sudden escalation in the value of cryptocurrencies has attracted many investors who lack these competencies. This makes their particular investments high-risk.

One of the attractions of cryptocurrency is the anonymity it provides the parties to a transaction. However, one of the consequences of this anonymity is that cryptocurrencies have attracted the interest of criminals and fraudsters with the result that the entire system has been relegated to the financial "shadows" of the public imagination. Furthermore, the lack of any form of backing by central banksdeprives it of the bone marrow of the standard currency. That is to say, there is nothing to support the currency other than trust. There is no national economy. There are no gold reserves or other assets underpinning the currency. And finally, since there is little or no government regulation, investors and other participants are deprived of the basic protections they take for granted when dealing with conventional financial institutions.

For the accountancy profession, all of this presents more challenges, it seems, than opportunities. The ethos of cryptocurrency is everything the ethos of accountancy is not. The former is risk, opaqueness and "trust", well-placed or otherwise, while accountancy is underpinned by minimization of risk, accessibility and audit trails. Of course, the human element in the record-keeping process and other mechanics of cryptocurrency is much less than that to be found in standard accounting systems. Blockchain has the potential to radically transform record-keeping by reducing human error and misconduct.

One way or another, it would seem that the accounting profession will have no choice but to engage with cryptocurrencies and should, therefore, probably be positive about it rather than focusing on its negative aspects. Culture and brand images can change, and, in time, it may be that cryptocurrencies will be able to distance themselves from their shadier associations and fall under the umbrella of national and international regulators and accounting bodies. That said, it may well be that cryptocurrencies will be replaced by other innovations-the cashless society, contactless payment and other platforms that send money across the world in seconds.





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TECHNOLOGY

While the tech giants of this world rush rapidly forward, some would say blindly, with the development of artificial intelligence (AI), a growing number of experts are warning that it's only a matter of time before AI will become autonomous and will be able to make its own decisions without the input of human beings. Some believe such developments could unleash forces that may eventually lead to humankind's destruction.

he late English physicist and cosmologist, Stephen Hawking, warned years ago that the development of full artificial intelligence could spell the end of the human race. "We cannot guite know what will happen if a ma-

chine exceeds our own intelligence." he said."so we can't know if we'll be infinitely helped by it, or ignored by it or sidelined, or conceivably destroyed by it". In 2017, at a meeting of the National Governors Association,

Elon Musk, CEO

risk to the exis-

of SpaceX; Tesla, "A fundamental risk to and Neuralink, the existence of human described AI as civilization" "a fundamental

tence of human civilization." In a similar warning in response to Russian president Vladimir Putin's prediction that the country that wins the race to develop artificial intelligence will be "the ruler of the world", Musk tweeted that "global competition to be the country with the most sophisticated AI will be the cause of the next

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objected to what he called "the hype and the sort of sound bites that some people have been making"most

reasonable-minded people agree that warnings by Hawking, Musk and many others who have deep knowledge about the most cutting-edge AI need to be taken very seriously.

Ray Kurzweil, a computer scientist and a public advocate of transhumanism and life extension technology, has said he believes technological singularity, or simply "'singularity" -the creation of a machine or possibly a technological form of life smarter than humans -will occur around 2045. Others such as Jürgen Schmidhuber, the co-founder and chief scientist at Al company, NNAISENSE, and director of the Swiss Al laboratory, IDSIA, is confident that singularity will happen sooner. "It is just thirty years away, if the trend doesn't break," he told Futurism at last February's World Government Summit in Dubai. "There will be cheap computational devices that have as many connections as your brain but are much faster," he said. According to Schmidhuber, that's just the beginning. He believes a device that isn't just smarter than humans but can compute as much data as all human brains taken together may become a reality just fifty years from now.

Hugo de Garis, born in Sydney, Australia in 1947, is a retired researcher in the field of artificial intelligence known as "evolvable hardware". In 1992 he received his PhD from

Université Libre de Bruxelles in Belgiumand worked as a researcher at the Advanced Telecommunications Research Institute International in Japan from 1994 to 2000, a researcher at Starlab, Brussels from 2000 to 2001, and associate professor of computer science at Utah State University from 2001 to 2006. Until his retirement in late 2010, he was a professor at Xiamen University where he taught theoretical physics and computer science and ran the university's Artificial Brain Lab.

that a major war before the end of the 21st century, resulting in bil-The reason for this is that intelligent machines or "artilects", a shortened form of "artificial intellects", will be far more intelligent than humans and will threaten to attain world domination, resulting in a conflict between what he calls "cosmists", who support the artilects, and what he calls "terrans", who oppose them. He dewar, reinforcing the point that billions of people will be killed. In 2005, de Garis published a book about this titled "The Artilect War: Cosmists vs. Terrans: A Bitter Controversy Concerning Whether Humanity Should Build Godlike Massively Intelligent

technologies which de Garis believes will make it possible for computers to be billions or even trillions of times more intelligent than humans. He predicts that as artificial intelligence improves and becomes progressively more human-like, differing views will begin to emerge regarding how far such research should be allowed to proceed. Cosmists will advocate unbridled growth in AI in the hope that "super intelligent" machines might



fate of the known universe that gives

the "cosmists" their name. It appears

de Garis identifies with this group

when he writes that it "would be a

cosmic tragedy if humanity freezes

evolution at the puny human level".

Terrans, on the other hand, will have

a more "terrestrial" earth-centered

philosophy in which the fate of the

earth, humanity and other species on

this planet are seen as all-important.

Terrans will find themselves unable to

ignore the possibility that super-intel-

ligent machines might one day cause

It is these two extreme ideologies

the destruction of the human race.

that will emerge between these two factions. He refers to them as "cyborgians" or "cyborgs" They will not be opposed to artilects but will actually desire to become artilects themselves by merging themselves with machines

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Throughout his book, de Garis states that he is ambivalent about which viewpoint he ultimately supports and attempts to make convincing cases for both sides. However, he writes towards the end of the book that the more he thinks about it, the more he feels like a cosmist, because he feels that despite the horrible possibility that humanity might ultimately be destroyed, perhaps inadvertently or at least indifferently, by the artilects, he cannot ignore the fact that the human species is just another link in the evolutionary chain, and must become extinct in their current form anyway, whereas the artilects could very well be the next link in that chain and therefore would be excellent candidates to carry the torch of science and exploration forward into the rest of the universe.

Elon Musk once wrote that "AI will



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Like Elon Musk, de Garis believes lions of deaths, is almost inevitable. scribes this conflict as a "giga-death" Machines"

which de Garis believes may usher in The first half of the book describes a new world war where one group with a "grand plan (the cosmists) will be opposed by another which feels itself to be under deadly threat from that plan (the terrans). These two factions, he predicts, may eventually war to the death because of this. The terrans will come to view the cosmists as "arch-monsters" when they begin seriously discussing acceptable risks and the probabilities of large percentages of earth-based life going extinct and the cosmists will come to

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TECHNOLOGY EDITOR'S CHOICE



"Al will be the best or worst

thing ever for humanity."

be the best or worst thing ever for humanity. "He also recommended a book on the subject: "Life 3.0: Being Human in the Age of Artificial Intelligence" by Swedish-American cosmologist and MIT professor Max Tegmark. The hardcover edition was on the general New York Times best seller list for two weeks and made the New York Times business best-seller list in September and October 2017. Described by the Telegraph newspaper as "one of the very best overviews of

the arguments around artificial intelligence", the book begins

by positing a scenario in which AI has exceeded human intelligence and become pervasive in society – in other words post-singularity. Tegmark refers to the different stages of human life since its inception as Life 1.0 referring to biological origins, Life 2.0

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referring to cultural developments and Life 3.0 referring to the technological age. The book focuses on Life 3.0 and on emerging technology such as Al. Tegmark considers a range of possible futures and outcomes that could occur from the development of Al such as altered social structures, the integration of humans and machines. He argues that the risks of Al come not from malevolence or conscious behavior but rather from the mis-alignment of the goals of Al with

those of humans. Rather than endorse a specific future, Tegmark invites readers to

think about what future they would like to see.

Tagmark and over 8,000 other leading scientists and researchers have signed a letter by the Future of Life Institute setting down research pri-

orities for what the letter calls "robust and beneficial" artificial intelligence. The premise of the letter is that while the potential benefits of Al are huge, it is important to reap its benefits while avoiding potential pitfalls. Research should not only be focused on making AI more capable but also on maximizing its benefit to society. The research priorities document that accompanies the letter references the AAAI 2008-09 Presidential Panel on Long-Term Al Futures which stated that while there was overall skepticism about the prospect of an "intelligence explosion" there was nevertheless a shared sense that additional research would be valuable on methods for "understanding and verifying the range of behaviors of complex computational systems to minimize unexpected outcomes". Some panelists recommended that more research needed to be done to better define "intelligence explosion" and also to better formulate different classes of such accelerating intelligences. Technical work would likely lead to enhanced understanding of the likelihood of such phenomena, and the nature, risks, and overall outcomes associated with different conceived variants. The research priorities document also references Stanford's "One-Hundred Year Study of Artificial Intelligence"which specifically highlights concerns over the possibility that we could one day lose control of AI systems via the rise of superintelligences that do not act in accordance with human wishes and that such powerful systems would threaten humanity. The letter recommends that research be aimed at ensuring that AI systems do what we want them to do. Such research is by necessity interdisciplinary, because it involves both society and AI. It ranges from economics, law and philosophy to computer security, formal methods and various branches of AI itself.

HUAWEI MATEBOOK X PRO: PERFORMANCE, DESIGN AND SAFETY

uawei recently launched the "HUAWEI MateBook X Pro"in Saudi Arabia. Designed for discerning businesspeople and content creators who demand a notebook that is stylish, compact, convenient and efficient, MateBook X Pro is the first ultra-slim notebook with FullView display. With a high screen-to-body ratio, the high definition 13.9 inch 3K 10-point touchscreen with 3000 x 2000-pixel resolution is set at a 3:2 aspect ratio, perfect for content creation.

The metallic body design is crafted with perfect diamond cutting and sandblasting finishing to create an ultra-slim body that is just 14.6mm thin and weighs 1.33 kg, making it comfortable to carry. It features the world's first recessed camera which discreetly sits on the keyboard. To activate it, all the user needs to do is press it and it will pop up, ensuring highest levels of privacy when it's not being used.

The premium design of the MateBook X Pro is matched by its performance. Featuring a powerful 8th Generation Intel® Core™ i7/i5 processor and a discrete NVID-IA® GeForce® MX150 GPU with 2GB GDDR5, it is one of the most powerful and lightweight notebooks on the market. It also features Dolby Atmos Sound System – breakthrough, immersive audio with Dolby Atmos and custom speakers. A 57.4Wh (typical capacity) battery and Huawei's low power consumption design provide up to 12 hours of 1080P video playback, 14 hours of regular work or 15 hours of web browsing.

Given the importance of protecting users' data, Mate-Book X Pro incorporates new advanced security technology for full hardware and software protection. A fingerprint reader scans images of the user's finger to verify their identity and confirm their authorization to access and use the computer. Thanks to the finger-print recognition application, a user can log in to apps





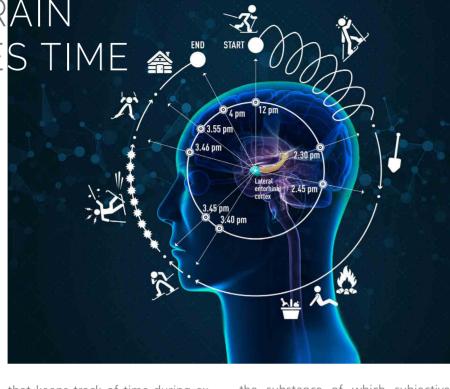
and secure websites through a fingerprint scan instead of typing their credentials, which usually takes some time. Using a special app, the fingerprint data encryption enables data decryption within fractions of a second to match the scanned fingerprint with the saved and encrypted data on MateBook X Pro's memory. The fingerprint sensor complements Microsoft Windows Hello technology, ensuring no data can be accessed by the operating system or the certified apps.

HOW THE BRAIN EXPERIENCES TIME A

The brain consists of cell types that have specific functions. Researchers at the Norwegian University of Science and Technology's Kavli Institute for Systems Neuroscience believe they have discovered a network of brain cells that express our sense of time within experiences and memories.

n 2005, two Norwegian scientists, husband and wife team, Edvard Moser and May-Britt Moser discovered grid cells which map our environment at different scales by dividing space into hexagonal units. In 2014, the Mosers shared the Nobel Prize in Physiology or Medicine with their colleague and mentor, John O'Keefe at University College London for their discoveries of cells that constitute the brain's positioning system.

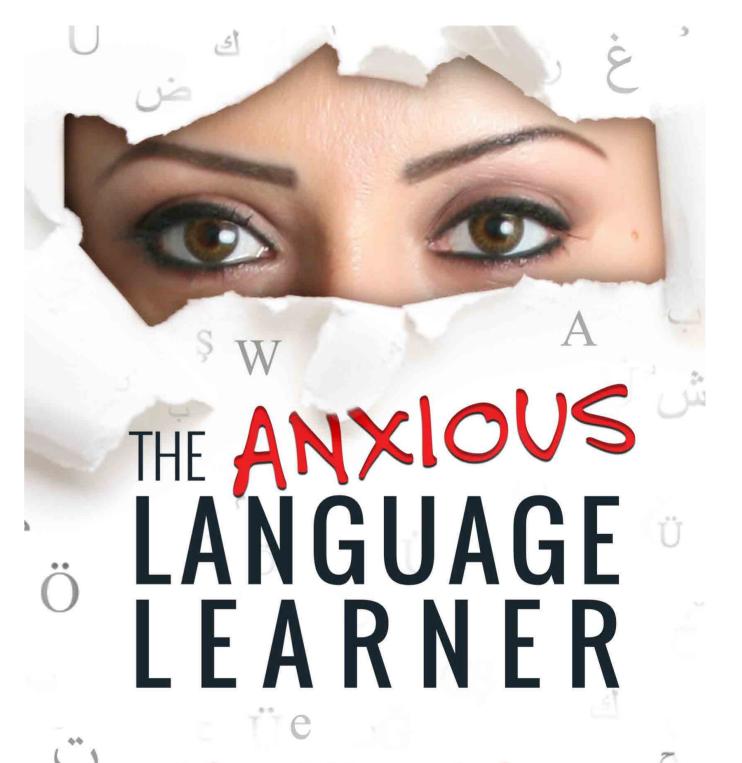
In 2007, inspired by the Mosers' discovery of spatially-coding grid cells, then-Kavli Institute PhD candidate, Albert Tsao, who is now doing his post doctorate at Stanford University, set out to crack the code of what was happening in the enigmatic lateral entorhinal cortex (LEC). This area of the brain is right next to the medial entorhinal cortex (MEC), where the Mosers had discovered grid cells."I was hoping to find a similar key operating cell that would reveal the functional identity of this neural network" Tsao says. Ten years on, Tsao and his colleagues believe they have discovered a neural "clock"



that keeps track of time during experiences. By recording from a population of brain cells, the researchers identified a strong time-coding signal deep inside the brain."Our study reveals how the brain makes sense of time as an event is experienced," says Tsao. "The network does not explicitly encode time. What we measure is rather a subjective time derived from the ongoing flow of experience"

Clocks are devices created by humans to measure time. By social contract, we agree to coordinate our activities according to clock time. Our brain, however, does not perceive the duration in time with the standardized units of minutes and hours on our wristwatch. The neural clock operates by organizing the flow of our experiences into an orderly sequence of events. This activity gives rise to the brain's clock for subjective time. Experience, and the succession of events within experience, are thus

the substance of which subjective time is generated and measured by the brain. In fact, living organisms, including humans, have multiple biological clocks to help keep track of time. What separates the brain's various timekeepers is not only the scale of time that is measured, but also the phenomena the neural clocks are tuned to. Some timekeepers are set by external processes, like the circadian clock that is tuned to the rise and fall of daylight. This clock helps organisms adapt to the rhythms of a day. Other timekeepers are set by phenomena of more intrinsic origins, like the hippocampal time cells that form a domino-like chain signal that tracks time spans up to 10 seconds precisely. Today scientists know a great deal about the brain's mechanisms for measuring small timescales like seconds. Little is known, however, about the timescale the brain uses to record our experiences and memories, which can last anywhere from seconds to minutes to hours.



A Saudi Woman's Story

TAGHREED M. AL-SARAJ, Ph.D.

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Please tell us something about you academic and career background

Certainly. My father was a diplomat and so I spent my formative years in several different countries – the United States, France and Pakistan. My father was actually a graduate of the University of Karachi in Pakistan. I think the experience of being exposed to different countries and cultures had a lot to do with forming my character. As for my academic background, I graduated from high school in Saudi Arabia and then went to the University of Miami in Florida where I earned my bachelor's and master's degrees in teaching English as a foreign language. I was fortunate to be awarded a scholarship at a time when scholarships were not available for Saudi nationals. I spent some time at the university working as a research assistant before deciding to move to the United Kingdom to do my PhD. I had married and had children and I wanted them to grow up closer to home which is why I chose

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the U.K. After completing my PhD in applied linguistics at University College London's Institute of Education, University of London, I was offered a research position and I did this for two years before taking up an offer from University of California, Berkeley. I was the only female Saudi national to hold two positions at UC Berkeley. I was not only doing research on education but was also vice-chair of the Berkeley post-doctorate entrepreneurship program. I was also the first Saudi female post doctorate fellow in the history of UC Berkeley.

In terms of educational research what kind of issues do you address?

One area of research that has particularly interested me is what we call foreign language anxiety (FLA) – in other words, how anxiety negatively effects language learning. It's a very specialized field and in the Arab world I was something of a pioneer. This high de-

gree of specialization has enabled me to travel the world to give lectures on the subject at institutions such as Waseda University in Japan, Yildiz University in Istanbul, the University of Texas at Austin as well as schools and colleges in Saudi Arabia

And, of course, this is the subject of your book "The Anxious Lanquage Learner"

Yes indeed. It was first published in 2015 when I was at UC Berkeley and it instantly became an Amazon bestseller. Although it's based on my years of research, I also wanted to make it very accessible – something anybody could pick up and easily understand. When you're publishing research for a specialized journal that's one thing. When you're publishing research for the general public, that's something entirely different And so I wanted to make it in the form of a story –or rather a collection of stories - something readers could easily follow. I didn't want to

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LEADERSHIP LEADERSHIP



burden the reader with a lot of heavy academic information. I wanted the book to be interesting and even funny in parts. The characters in the story are people with whom readers can easily identify. Many people have anxiety about learning a new language, but they often don't know they have it. And so, in many cases, they simply find excuses not to learn a language altogether rather than deal with the anxiety. The stories in the book aim to put these things in perspective and enable readers to understand why they don't want to learn a new language and how

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to overcome their anxiety.

How did you go about this?

In addition to the other language students, the book also includes my own personal journey of learning my third language - Turkish. I basically made myself a subject of my own research. I planned the book for over a year and a half, not to mention the time it took to write it. I wanted to experience for myself the anxiety other language students went through in order to form a better understanding of how it af-

fected them. I'm also a certified coach and so I end the book with techniques to help readers lower their anxiety levels and set themselves goals and targets to learn the new language.

When did you decide to start your consultancy practice "EducateRight" and what motivated you?

I formed EducateRight when I was in London. At that time, so many Arab students had heard about me and many used to call me for advice about which

university to go to or which educational systems were the best and so on. I had first-hand knowledge of so many educational systems especially in the U.S. and the U.K. I had been an exchange student when I was at the University of Miami and went to Yale University and Oxford University. I knew about many universities and how they operated so I was very comfortable advising students. For this reason, I thought about establishing a consultancy to work with these students. What helped me was that I was a certified coach and so I was able to focus on what they really wanted, help them to choose a career path, what subjects to study and which universities to apply for.

I believe you're also involved in a new venture called "Nine Tenths". Tell us about that.

Yes. I'm a consultant with Nine Tenths which is backed by the Saudi Human Resources Development Fund We help entrepreneurs at different stages of their business – starting-up, growing the business and so on We have an accelerator program and different platforms to help businesses to grow. "Baher" for example connects companies with freelancers. There is also "Forsa" which is a b2b platform connecting buyers and sellers About three quarters of Saudi Arabia's population are under the age of twenty-five. Initially, we're focusing on universities by helping new graduates or soon-to-be graduates to get jobs or to create their own businesses. We're currently working with a couple of universities to help students to develop soft skills and learn about entrepreneurship - from the initial idea to how to design a business model and how to plan for growth - all the skills and knowledge they need to start their own business.

How do you view the situation of women in Saudi Arabia in the con-

text of work and business?

Women everywhere face hurdles - not only in Saudi Arabia. Perhaps Saudi culture and traditions put more pressure on Saudi women in terms of their priorities – home and family first; work second. Actually, I can't disagree with that. I believe it's supposed to be that way. However, there are many women, even if they have the chance to go out and work, that don't have the confidence to do it. So, that's one of the key issues. I coach women in leadership. I help them to try to see their strengths and capitalize on them. I used to do that when I was in London and I've had clients from many parts of the world – the U.K., Germany, Angola, Nigeria – to name a few. We all have issues. But that's the beauty of it. We are all human and everybody has issues of one kind or another. The hurdles are different for each person but we have to work on them and see how to overcome them. It's not something you can generalize. We're all the same and at the same time we're all different.

Generally speaking, do you think men and women in Saudi Arabia and the Middle East in general, are equipped in the same way for leadership positions in government or business?

I believe both men and women have potential to be leaders in government or business. In Saudi Arabia, a lot of the hurdles in the past have had to do with rules and regulations. But things are starting to get better and there have been many changes over the last couple of years. New rules and regulations are already having a positive impact on the situation of women. Now there is no reason for a woman to say she can't do this or she can't do that. I've done many television and radio interviews. In one interview with the

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BBC, I was asked about these changes. I said 2017 was the year of the Saudi woman and 2018 would be the year of her accomplishments. I think that in the years to come we'll be seeing more female leaders in Saudi Arabia in both government and business.

As a businesswoman yourself how do you balance work and family?

Maintaining a balance is always difficult. Sometimes family matters come up that need your immediate attention and work has to be put on the side for a while Other times, something comes up at work and you have to ask your husband and children to do things without you. Yes, it is a balancing act. I don't know if there is such a thing as achieving a "true balance" but that's what you try to aim for. In my case, my children are grown up and they don't need my help as much.

What are your plans going forward?

I've been working with Nine Tenths for three years. I've met with many young Saudi men and women They are keen to work but they are not getting the opportunities they deserve and this breaks my heart especially when you see they are qualified and have the knowledge and resources they need. I and two friends have formed a company to help recruitment agencies choose suitable candidates for their clients. And so if you give me a job description I will identify two candidates that I think are exactly what you are looking for, saving you time and money going through hundreds and sometimes thousands of applications. We're in the startup phase and still fine-tuning our business model. We think it's a solution that is not only needed in Saudi Arabia but in many places around the world.

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ARTS & CULTURE ARTS & CULTURE ARTS & CULTURE



When was the idea for the new gallery conceived and what was the reason behind it?

This new gallery is a major re-display of the British Museum's world-class Islamic world collection. The collection has been assembled over the course of more than two and a half centuries with over 100,000 objects acquired by different departments of the Museum. The collection represents an extensive array of material, including well-known masterpieces of Islamic art, objects of everyday life, coins, archaeology, ethnography, textiles, architectural elements, arts of the book and contemporary art. The creation of the new Albukhary Foundation Gallery of the Islamic World has presented the Museum with an extraordinary opportunity to display the rich, engaging and multifaceted narratives that these objects tell us about the people and cultures of the Islamic world, as well as the ideas, technologies and interactions that inspired their visual culture.

The previous gallery, the John Addis Gallery of the Islamic World (Room 34) opened in 1989 displaying highlights of the collection and has always attracted broad public interest. However, for some time we have had the aspiration to expand and re-display these collections, and four years ago the Albukhary Foundation gave us a wonderful opportunity to do so in a new set of refurbished historic spaces. We will now be able to show objects that have not been on display before and to highlight the inter connectedness between the cultures of the Islamic world up to the present day and world cultures more broadly. This is an important role that a museum such as ours, with its strong educational mission, can play by showing the history and material culture of this region. This permanent display is part of the British Museum's vision to be a place where visitors can come to learn about and compare all aspects of world religions and

thereby to deepen their understanding of the world.

How did the Albukhary Foundation become involved in this project?

The British Museum's relationship with the Albukhary Foundation goes back many years. The Albukhary Foundation is a non-profit organization based in Malaysia. For the past forty years, it has been promoting goodwill through education and cultural heritage. It has also been improving the lives of underprivileged and neglected communities through humanitarian projects and educational programs as well as promoting scholarship among muslims and nonmuslims alike. The Foundation initiated and continues to support the Islamic Arts Museum Malaysia (IAMM) in Kuala Lumpur which is now the largest museum in Asia Pacific dedicated to the arts, culture and heritage of the Islamic world

This project has developed from a long-standing relationship between the British Museum and the IAMM. This started in 2004 with a joint exhibition "Mightier than the Sword" at the IAMM followed by a loan of Iznik ceramics from the British Museum to the IAMM, for eight years from 2005 until 2013. We also collaborated with the IAMM on the British Museum's hugely popular exhibition, "Hajj: journey to the heart of Islam" in 2012. As a result of this, a close bond has developed over the years.

What was the philosophy underlying the design of the new gallery?

The design process began when Stirling Prize-winning architects, Stanton Williams, were appointed in December 2015. They have worked inclose collaboration with the curatorial and project teams to open up and significantly refurbish two historic, nineteenth-century spaces on the first floor of the Museum. The rooms are rich in historic character,

with high ceilings, roof lights and period detailing. The new gallery is made up of two rooms, a total of 623 m2 floor space, which is almost 30 percent more than the old Addis Gallery. I have found the process fascinating as the design has come together, from sight lines and case design as visitors move about the space, to the choice of fabric colours in the cases and key object placements in case layouts. Working with lighting specialist Arup and the artist, Ahmad Angawi, Stanton Williams have created a beautiful new space where the design allows the objects to come to life and tell their own stories.

Tell us something about the curatorial team?

The curatorial team is headed by Venetia Porter and Ladan Akbaria. Venetia is responsible for the collection of Islamic art, in particular of the Arab World and Turkey as well as developing the collection of the modern and contemporary art of the Middle East. Ladanis a specialist on the art of medieval Iran and Central Asia. Her research includes crosscultural transmissions between Iran and the Far East; Persianate drawings; the relationship between oral tradition and visual culture; and contemporary Middle Eastern art. They are assisted by their colleagues Fahmida Suleman, Amandine Merat, Zeina Klink-Hoppe, Phyllis Bishop and William Greenwood who possess a very wide range of knowledge and expertise that reflect the scale and breadth of this project:

Since it is not widely known, what does curation at the British Museum involve?

Curators at the British Museum are leading experts and scholars in their field. They take care of the Museum's world-renowned collection and continue to research and expand our understanding of these objects and the world cultures

they represent. This involves regularly updating permanent displays and interpretation, organising rotating displays as well as special exhibitions, and pursuing acquisitions of new objects for the collection. They also serve the public by answering enquiries about objects and special events such as public tours, family activities and academic conferences. Curators at the British Museum may also work on special projects in collaboration with other institutions and countries, such as excavations, supporting other museums and cultural initiatives. All of their work relies on collaboration with colleagues both inside and beyond the museum, including conservators, collection managers, interpretation officers, and colleagues in digital programmes, archivists and other curators and scholars.

In addition to the exhibits, there is also a digital media program. Tell

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us about that.

Yes, indeed. Digital specialists have been involved from the start of this project. They have helped to create a multi-sensory interpretive framework using films, animations and audio to add context, establish emotional connections and to provide different ways to engage with the objects on display. Visitors will be able to enjoy a series of films which explore and expand on a number of the gallery's key themes such as archaeological discovery, ceramic technology, the art of book making and music and performance. There are also opportunities for visitors to listen to contemporary voices talk about a particular object and theme via their mobile device.

The scale and pace of change in digital technologies over the last decade or so has been remarkable. The number of people engaging with British Museum

content online around the world is far greater than those who visit the Museum physically. Digital content accessible via social media platforms has been developed to share the Museum's Islamic world collections and research globally. There is a dedicated website which allows for further exploration of the collection on display as well as an opportunity to watch and listen to the films and audio content from the gallery.

Visitors to the Museum will also have the opportunity to engage directly with objects at a dedicated Hands On desk. Objects from the handling collection will include a selection of coins, from ancient to modern; traditional silver Omani jewellery; and a lustre ware bowl, the making of which features in one of the gallery films. Over the next six months we'll be working with community partners to research and select additional objects.



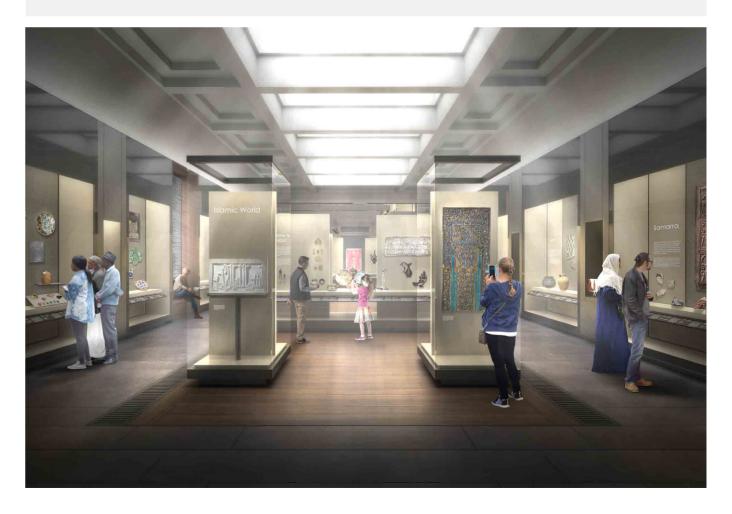
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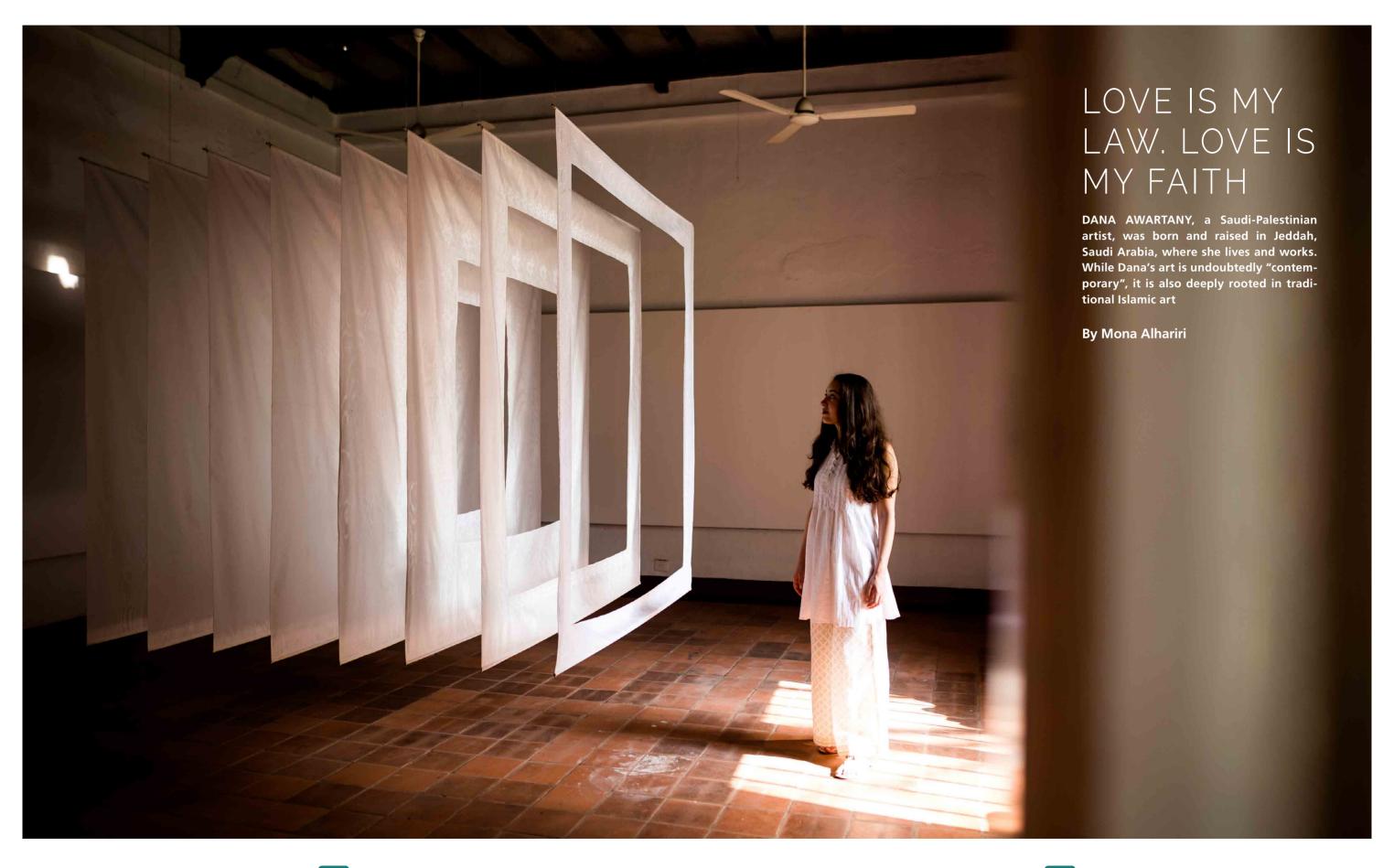
CAREER

After studying in Berlin, Rome and Paris, Hartwig Fischer gained his PhD in Art History from the University of Bonn in 1993. He began his career in museums as a Research Assistant and then Curator of 19th Century and Modern Art at the Kunst museum in Basel, Switzerland before becoming Director of the Folkwang Museum in Essen in 2006. During his time as Director of the Folkwang Museum, he oversaw a major building project with the acclaimed architect David Chipperfield, as well as several blockbuster exhibitions and many key acquisitions. In 2012, he was appointed Director General of the Staatliche Kunstsammlungen, Dresden (State Art Collections, Dresden) with responsibility for 14 museums and associated libraries, archives and research centres.

Hartwig took up the post of Director of the British Museum in Spring 2016. He has presided over the development of a series of topical exhibitions in the Museum's experimental space "Room 3" supported by Asahi Shimbun. Topics as diverse as migration, rebellion in Haiti and modern Egypt have been explored. He oversaw the development of the Museum's first music festival, "Europe and the world: a symphony of cultures" for two weeks in April 2018, organised with Staatliche Kunstsammlungen Dresden that brought together diverse musical traditions in the extraordinary setting of the Museum's galleries.

During his tenure as the Director of the British Museum Hartwig has travelled to China, India, Japan, Australia, Nigeria, Ghana, Egypt, Iran, Malaysia and the United States.





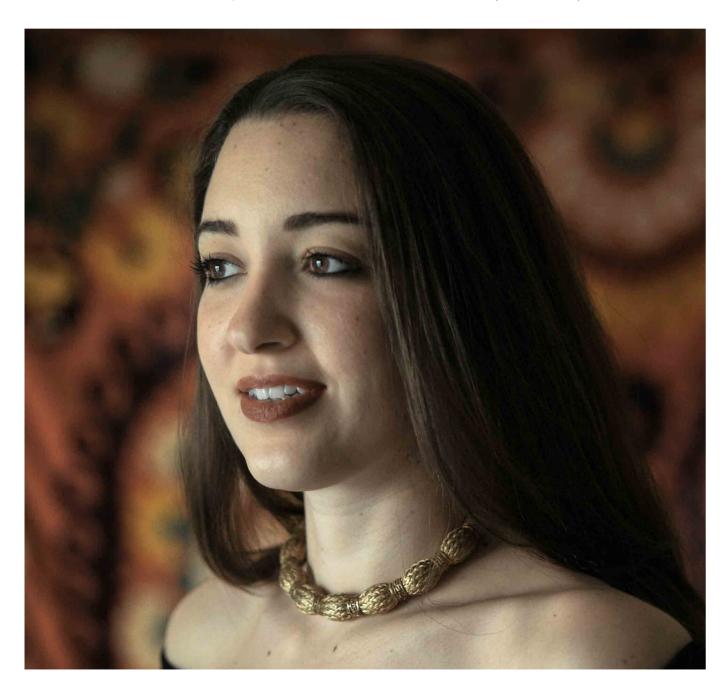
ARTS & CULTURE ARTS & CULTURE

Born in 1987, Dana Awartany obtained a bachelor's degree in fine art from Central Saint Martins college of art and design in London and went on to complete a two-year master's degree from the Princes School of Traditional Arts, also in London, where she learned how to create stained glass, miniature painting sand other works of art using traditional techniques from around the world. Realizing she had an inner yearning to learn more about her own culture and artistic tradition,

she explored a wide range of Islamic arts such as tiles, parquetry, geometric art, ceramics, miniatures, mosaics and illumination. She also studied with master calligraphers in Turkey to earn an "Ijazah", a diploma in Islamic calligraphy, which not only enabled her to create her own compositions but also qualified her to teach calligraphy to others using a strict, time-tested traditional teaching method

While much of Dana's work, is un-

doubtedly "contemporary", it is also deeply rooted in Islamic tradition, "Islamic art is not art for art's sake" she explains. "It's a sacred spiritual practice. It's a form of prayer and "dhikr" (remembrance). It teaches "sabr" (patience) and respect. It's beautiful and also reflects inner beauty. It speaks, often silently, about truth which is the raison d'être of human life. It can have an intercessional effect. Its symmetry, harmony and infinite structural forms point to divine perfection."

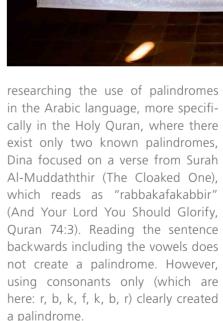


Many of her pieces aims to reveal meaning through numbers and geometric patterns. One piece entitled "Love is My Law, Love is My Faith"which she exhibited at the David Hall, Fort Kochi, in India in January 2017 features a set of eight intricately embroidered cloth panels. It was inspired by the twelfth century Sufi poet, Ibn Arabi, who wrote verses about his experience in the holy city of Mecca. The panels are arranged in order of decreasing size and are intended as a spiritual journey towards the sublime"Every number has a meaning" she explains. "Ibn Arabi said that the eight-point star is a representation of the eight angels that will bear the throne of God on the day of judgement and it's seen at a higher level as representing the idea of rebirth. Even the dome of the rock in Jerusalem was built on an eightfigure base," she explains.

Dana often works with the mysticism of the Sufi tradition which considers symbolism to be an essential means to approach and engage with the Eternal. She has a great fascination for geometry, through which she is able to blend art with mathematics "Sufi poetry and teachings are layered with evocative symbols that strive to inform and awaken different levels of intellect, being and understanding" she says "I try to bring Islamic art to bear on the contemporary world using the medium of mathematics"

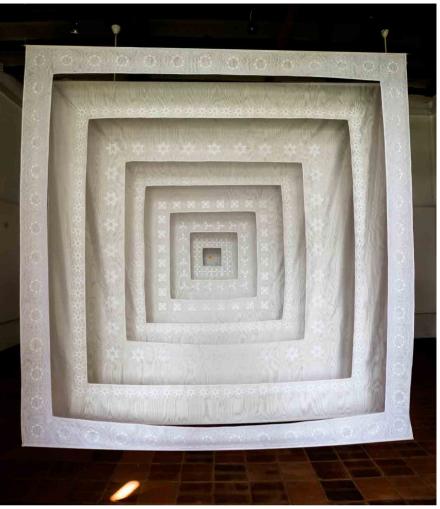
"And Your Lord You Should Glorify", for example, is a mixed media, shell gold, ink and gouache on paper which explores the subject of "palindromes" - words, phrases, numbers or any other sequence of characters that when read backwards or forwards are the same. Palindromes, in essence, are a form of wordplay that has been used for many centuries dating back to at least 79 AD. After

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She takes the piece a step further by converting each letter into a numerical value using the "Abjadia" system of numerology and then into a symbol that embodies that number. The viewer can decipher the code by first

looking at how many points or "angels" each design has and then looking at how many times that design occurs to calculate how many units are contained in the total sum of the individual letter. The letter "Ra" for example is expressed by a design that has two "angels" and is painted three times which translates into two hundred. The letter "Ba" uses the same two-pointed design and is painted once which translates into two while the letter "Fa" is expressed using a design that has eight points and is painted twice, which translates into eighty...and so on. In this process, the viewer moves back in time, as it were, from the present moment into the heart of the eternal and the fundamental Islamic principle of "tawhid" or unity.

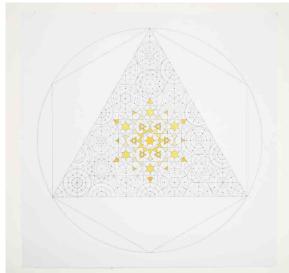


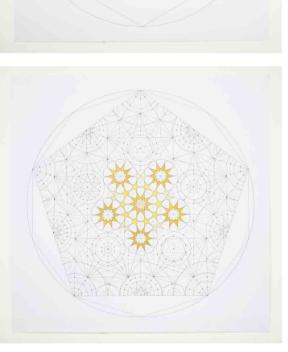
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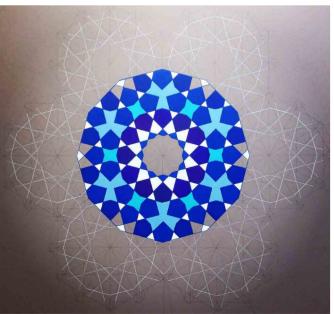
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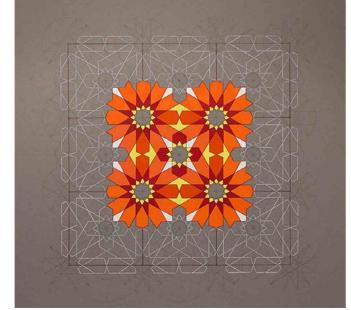
ARTS & CULTURE ARTS & CULTURE











In addition to sacred Islamic geometry, Dana has also created sculptures based on Platonic solids which Euclid described in his book, the Elements. In three-dimensional space, a Platonic solid is a regular, convex polyhedron constructed by congruent, regular, polygonal faces with the same number of faces meeting at each vertex. Five solids meet these criteria: a tetrahedron (four faces), a cube (six faces), an octahedron (eight faces), a dodecahedron (twelve faces), and an icosahedron (twenty faces) Plato hypothesized in his dialogue, the Timaeus, written around 360 BC, that the classical elements - earth, air, fire, and water – and the heavens were made of these regular solids. Earth was associated with the cube, air with the octahedron, water with the icosahedron, and fire with the tetrahedron. Of the fifth Platonic solid, the dodecahedron, Plato obscurely remarked, "...the god used [it] for arranging the constellations on the whole heaven". Dina's sculptures take direct inspiration from these forms."You can see geometry throughout nature at every level from the macro to the microcosmic" she says.





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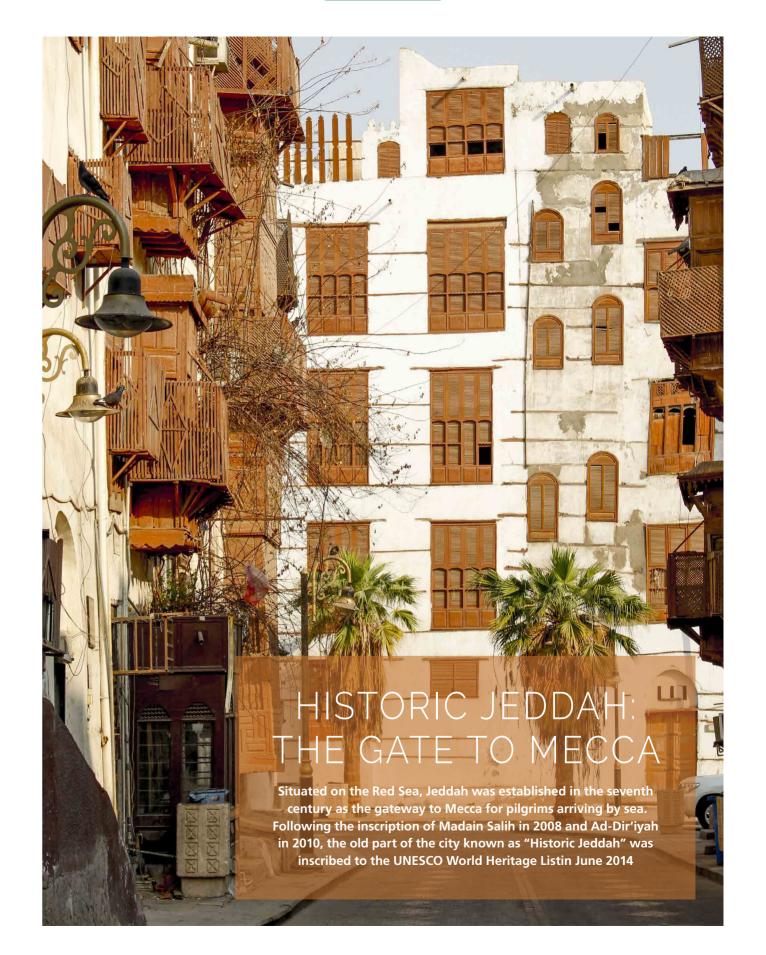


Besides exhibiting locally at the Athr gallerv in Jeddah. Dina's work has taken her around the world to countries such as the United Arab Emirates, Qatar, Morocco, France, Italy, India and China. She has exhibited alongside celebrated artists such as Indian sculptor Anish Kapoor, and Japanese multimedia artist, Yoko Ono. Several pieces of her work feature in the Farjam Collection, one of the world's largest collections of Islamic art. For the most part, however, she spends her time in "splendid isolation" in her studio in Jeddah, often working fifteen hours a day to produce pieces that can take weeks to complete."Time flies when you're painting." she says." People who've never met me look at my work and they think I'm calm and collected. In actuality, I'm the total opposite. I'm all over the place and scattered. But my art brings me peace. It's my therapy. Focusing on art calms me down. I'm just like every other person going through life, trying to find peace in this world"

Dana also sees her art as an opportunity to bridge divides and promote interfaith understanding. One project titled "Orientalism" is set in a pvc-taped room that appears completely dark from a distance but is spectacularly colorful inside. The element of surprise and indeed shock symbolizes the need to engage closely with other cultures. "My aim is to educate and raise awareness not only about traditional techniques of art which is nearly nonexistent, but also about the beauty of Islam, a side a lot of people don't know "says Dina who believes her art can make a difference at a time when what she calls "horrible stereotypes" are attached to religion. "I hope through my art I can break down these misconceptions and try to start a positive dialogue. When I talk about the spirituality behind religion, it allows people from other cultures and religions to relate to it and find similarities with their own beliefs and practices. I guess I'm trying to give people a sense of unity rather than build more barriers"

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ccording to tradition, the first human settlement in the area of present-day Jeddah dates from the second century BC when a tribe from western Arabia called Qudha'a, originally from Yemen, settled in the area. At that time, it was probably no more than a small fishing village. It was in the sixth century that Persians settled in the city. They built the first city walls and developed the harbor. A moat was dug around the city walls and filled with seawater. Hundreds of wells and cisterns were dug and constructed inside and around the walled city for daily water supply and to increase the city's resilience in case of siege. The role of Jeddah as a seaport was firmly established in the seventh century when it was seized by Arabs. In 646, the caliph, Othman, decided, at the request of the people of Mecca, to abandon the old landing place at Shuaybah, located

twenty kilometers south of the city, in favor of Jeddah itself which began to receive pilgrims arriving by sea on their way to Mecca.

Historic Jeddah, known to local residents simply as al-Balad (Arabic for "the town"), developed for centuries within protective walls that were built in the sixteenth century by Hussein al-Kurdi to replace the original walls that had fallen into disrepair. Even as late as 1940, the walls were still in good condition rising to a height of three to four meters. The entire city wall was in the shape of an irregular hexagon and entrance to the town was through battlement gateways, opening on each side, that were closed at dusk for the night. Two fortresses were located at each corner of the seafront wall with the northern fortress used as a prison. A wide roadway extended along most of the wall's inner side, separating it from an outer row of houses. Until 1947, when the walls were finally demolished, Jeddah was a small town of less than 1 square kilometer and some 35,000 inhabitants. Today, Jeddah occupies a land area of approximately 1,000 square kilometers and has a population of around 4 million people, making it the second largest city in Saudi Arabia.

After the walls were demolished in 1947, the old city underwent a dramatic transformation. It originally opened to the sea and pilgrims would disembark from their ships and enter directly into the city. Today, the old city is separated from the water. A second major transformation took place in the 1970's when part of the old city was demolished to make way for a new road, Dahab Street, which cut through a densely built-up area of the city. Though some historic build-

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ings were preserved, this part of the old city lost most of its original buildings. However, it continues to maintain its traditional commercial role and has office buildings, hotels and shopping malls that date from the 1960's and some high-rise buildings.

The World Heritage site itself covers an area of about 18,000 square meters of the total 60,000 square meters that make up the old city. It is home to about one percent of the entire population of greater Jeddah The perimeter starts from the ancient "souks" ("markets") which still cross the old city from west to east and includes more than 250 of the 350 historical buildings that were listed in a survey of the old city carried out by the British architect and planner, Robert Matthew, in 1981 for the Jeddah municipality. The outstanding cityscape reflects the economic and cultural exchange that took place

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between Asia, Africa and Arabia over many centuries.

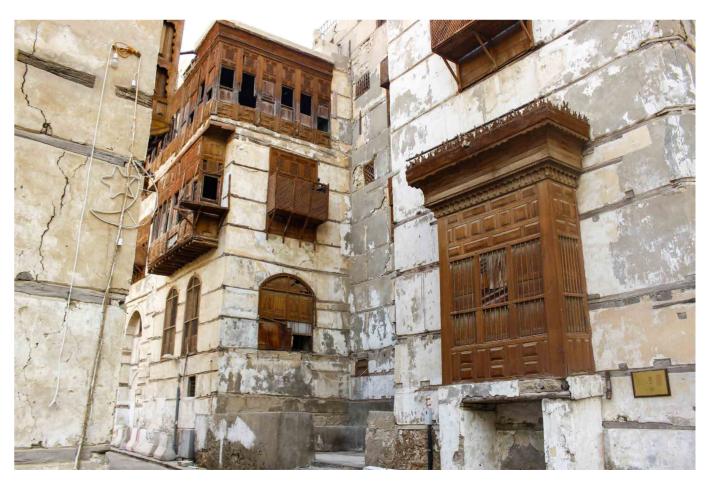
Souks, residential quarters and **alleyways.** The "souks" ("markets") were and still are places where people shop, conduct business deals and generally socialize. As in most traditional Arab cities, the shops tend to be clustered together according to what they sell - textiles, jewelry, money-changers – and so forth. The bustle of the souks fades away as you move towards the guieter and narrower shaded alleyways of the residential quarters. The safety, privacy, and well-being of the residents of each residential quarter was the responsibility of the entire community, not merely as a good neighborly gesture, but as a religious obligation. The "hara" or alleyway was a natural extension of the family. Each alleyway had a leader (called the "umdah") who provided a more localized

level of support. He settled disputes, took charge of the safety and security of the residents and headed delegations to other quarters and the central government. Since the 1980's, there have been only two "umdahs" for the entire old city, one responsible for the "Yemen" and "Bahr" quarters, the other for the "Sham" and "Mazloum" quarters.

Houses The most distinctive feature of Historic Jeddah is its traditional architecture. Given the limited area within the city walls, six- and sevenstorey houses provided the space needed for extended families and ensured the privacy of the female members of the household. Most of these traditional houses can be classified into a single building type called the "roshan" townhouse which emerged in the second half of the nineteenth century. Windows were

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generally sited above street level, roof terraces created secluded areas and were subdivided by high balustrades to provide privacy for the women while male guests were invited into reception rooms isolated from the areas of the building used by women The house combined private spaces with offices and warehouses at street level. Rooms would often be rented out to pilgrims during the hajj season.

The "roshan" or wooden bay-window is one of the most distinctive and characteristic features of the house. Although it is a common feature of houses throughout the Middle East, especially in Cairo and in Istanbul, the roshans in Jeddah are distinct. They are constructed of louvered panels and exist either as a single roshan or stacked vertically or horizontally. In some magnificent examples, they extend both ways to cover the whole facade. Their average height is equivalent to the height of a person standing and their length to a person sleeping. Members of the household would sit there at night watching the street, drinking tea, smoking a shisha

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(water pipe) or sleeping.

A description of the city in 1854 by a Frenchman, Charles Didier, highlights the uniqueness and refinement of the houses and the multi-cultural nature of the city: "The city is divided in two large sections: the Yemeni and the Syrian, so called because of their geographic position, the first to the south in the direction of that province of Arabia and the second to the north. There are other subdivisions as well, each inhabited by a population of different origin, that often deliver themselves to strenuous fights. The beautiful houses, solidly built in stone and many-storeyed, have ogival gates and large external windows. These windows have no glass panes, but they are closed on all their extension by wood grilles, very finely worked, allowing to look outside without being seen (...) These smart grates are painted in vivid colors contrasting with the white of the walls. Several terraces are surrounded by elegant wiredrawn balustrades, and some of them (...) are surmounted by large kiosks built of carved wood like the balconies, where ladies enjoy the cool air without being seen. Much of the daily life is spent on the terraces, as the sea breezes mitigate there the often-unbearable summertime temperatures."

Mosques and ribats

There are nine major mosques within the perimeters of the World Heritage





site Among these, Masjid ash-Shafe'l, named after Imam ash-Shafe'i, the founder of one of the four Sunni schools of Islam, is the oldest and widely regarded as the most beautiful mosque in the old city. It is located in the Mazloum quarter overlooking souk al-Juma'a (the Friday market). It was reportedly built by King al-Mudhaffar of Yemen in the thirteenth century and almost entirely re-built, apart from the minaret, in 1539 by an Indian merchant. The mosque's eastern side, the largest covered prayer area, is composed of three parallel galleries covered by a wooden ceiling. It has a square central courtyard surrounded by a portico whose slender wooden columns culminate in cruciform beams decorated in a distinctively Indian style. The mosque's minaret comprises three sections: the lower and middle parts are octagonal, while the upper one is bulbous in shape. The minaret is reached via a small circular staircase hidden in the thickness of the perimeter wall. Beside the mosques, the old city reportedly had as many as fourteen religious and charitable institutions known as "ribats" Only one of these - serving poor widows - is still active today

Management of the old city

Historic Jeddah is jointly managed by the Jeddah municipality and the Saudi Commission for Tourism and Antiquities (SCTA). New regulations issued in 2011 are designed to protect the existing buildings and set compatible specifications for in-fill buildings and new construction. The current revitalization plan foresees more in-fill buildings, the adaptation of existing historic buildings for residential, commercial and cultural activities and new urban redevelopment around the old city. A five-year budget of 225 million Saudi riyals (\$45 million) has reportedly been allocated for this purpose.



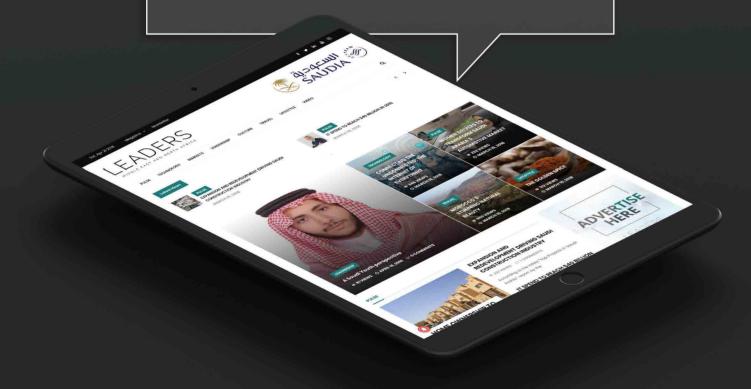


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